■ CEO PAY SWEEPSTAKES ● WHY BILL GATES KEEPS WINNING ● AIRPORT SNARLS ■

JUNE 18, 1990
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FORTUNE

THE BIGGEST LOONIEST DEAL EVER

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How the wacky Robert Campeau and his fee-hungry bankers concocted a huge takeover that promptly went bust. The repercussions clobbered businesses far and wide, and are still going on ... and on ... and on ...

by Carol J. Loomis

JUNE 18, 1990
VOL. 121, NO. 14

FORTUNE

ABOVE: Robert Campeau and his wife, Ilse, at their home in Toronto, photographed by Peter Sibbald.

COVER: Alex Quesada (Matrix) photographed Campeau at the Waldorf-Astoria Hotel in New York City in 1988.

MONEY & MARKETS/Cover Story

THE BIGGEST LOONIEST DEAL EVER 48

It brought the excessive Eighties to an absurdly fitting end. Robert Campeau's history of nervous breakdowns and volatile behavior was well known to the lenders who financed his ill-conceived takeover binge—one resulting in a financial megabomb that was barely built before it was detonated by a business that *had* to deliver and didn't. So why did the lenders give him all that money? *by Carol J. Loomis*

> **"One man, one company. They simply managed to throw a whole industry into turmoil."**
>
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Borrowers are rediscovering the dangers of optimistic forecasts, unforeseen events, and lenders who turn against them. *by John J. Curran*

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Microsoft's billionaire is a hot manager too. He has solved the classic problem: After a big hit, what do you do for an encore? *by Brenton Schlender*

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Aiming to refashion the furniture industry, Masco saw its earnings drop. But its style of friendly acquisition may suit the Nineties. *by Ronald Henkoff*

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Had a terrific year? You could earn a mint—or a pittance. Top bosses often aren't paid according to performance. Startling new evidence says maybe that doesn't make a difference. *by Graef S. Crystal*

"The pressure to pay off the debt tends to put a firecracker under management."

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"We had to look at our businesses and ask ourselves whether they might be worth more to somebody else."

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"He's very action oriented and believes it's better to make a decision and correct it later than not to make a decision."

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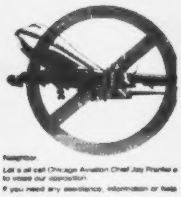

"Living near an airport is like being married to a very wealthy person who snores."

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"I did not drive around in a Rolls pointing my finger at houses. I keep all three of my Rollses in Japan."

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"Our assets tend to be an eight on the Richter scale."

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AIRPORT 2000— A HORROR STORY? 104

You know all about delayed flights, gridlocked runways, crowded terminals. You haven't seen anything yet. Airports have not kept pace with passenger volume and will have a hard time catching up. Only a burst of building on a grand scale can head off more trouble. *by Kenneth Labich*

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Thousands of Japanese are longing for the kind of wide-open spaces they cannot get at home. And as long as land in Tokyo costs $160 a square inch—$17,000 for a piece as big as this page—real estate investors will keep buying in the U.S., where everything looks cheap. *by Susan Moffat*

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Eastman Kodak's new motion analyzer, reverse-dictionary software, the perfect gift for Father's Day, and more. *by Frederick H. Katayama*

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A FORTUNE survey of the nation's top bosses shows that the Ivies and Big Ten schools rank high—and that the Ivy League's dominance is, if anything, increasing. But wait! Little Johnny or Janie may want to consider Washington & Lee or Davidson. *by Susan Caminiti*

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Waiting for Mr. Right, Princess Charming at Price Waterhouse, and more. *by Daniel Seligman*

LETTERS TO FORTUNE

VIRTUE AND DREXEL BURNHAM'S FALL

In all the discussions about the collapse of Drexel Burnham Lambert and the fall of Ivan Boesky, Dennis Levine, Michael Milken, and others ("Oh, How They Toppled on Wall Street," May 21), what seems to be overlooked is that it was one person writing an anonymous letter from Venezuela that triggered the whole insider trading investigation.

The letter could easily have been filed in the wastebasket by a secretary or officer at Merrill Lynch, which I believe has not been given enough credit for realizing the significance of the letter and turning it over to the SEC. It makes one realize that a single person can and does make a difference in our world.

CHARLES F. YARHAM
President
Industrial Handling
Cleveland

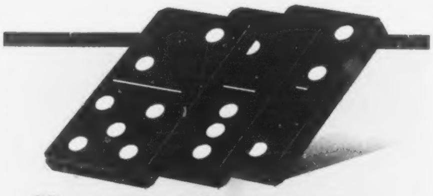
Dennis Levine's "Inside Story of an Inside Trader" reminded me of an incident my grandfather told me about years ago. During the 1930s he was working as an electrician at a gold mine in northern Ontario when he was offered a part in a stock scam if he would arrange a power failure once the drill team hit a gold pocket. He refused and was fired shortly afterward, when he tried to expose the scheme. (Another electrician did cause the failure.) He was poor all his life, and I asked him why he didn't cooperate—after all, the result was the same, except that someone else got rich. He never really answered me, but over the years I've come to understand why. My grandfather was a very proud man, and he was proudest not of what he owned, but of who he was. At the risk of sounding self-righteous, I think he would have believed that at $12 million, Dennis Levine sold his integrity very cheaply indeed.

ANDREW PATTERSON
London, Ontario

Mr. Levine states that when he heard Avon was considering purchase offers for Tiffany, he called me, initiating the idea of the management buyout we accomplished in 1984. But long before I had the misfortune of meeting Dennis Levine, I was on record as committed to leading the buyout.

It is true that Levine later contacted me and arranged for me to meet an important financial partner in the transaction. After a few weeks of discussions, the financial partner and I became so disenchanted with Levine's conduct that we asked his firm, Shearson Lehman, to replace him on the assignment, and another investment banker helped us complete the acquisition.

WILLIAM R. CHANEY
Chairman of the Board
Tiffany & Co.
New York City



"One person writing an anonymous letter triggered the whole insider trading investigation."

Dennis Levine replies: "When I called to propose the leveraged buyout, Mr. Chaney was already considering the option; I never meant to imply otherwise. But no one ordered me off the deal."

The three young men identified in the photo on the second page of "The Last Days of Drexel Burnham" as "Drexel's well-paid youngsters" are in fact compliance department auditors employed by the New York Mercantile Exchange. They were removing records from Drexel's offices as part of the exchange's regulatory oversight of the transfer of accounts and liquidation of house positions.

NEAL L. WOLKOFF
Senior Vice President
Regulatory Affairs and Operations
New York Mercantile Exchange
New York City

FORTUNE *regrets the error.*

POPULATION BOMB STILL TICKING?

Julian Simon's review of Paul and Anne Ehrlich's new book, *The Population Explosion* (Books & Ideas, May 21), misses the point. Of course he is right that technological development, driven by capitalism, has boosted welfare per capita over a much longer period of population increase than Malthus and other gloomy forecasters have predicted.

But Simon argues that human welfare will continue to improve as a result of desirable population growth accompanied by even faster technological development. Alas, it is not so simple. In a finite world system, subject to the laws of physics, two variables (population and per capita welfare) can't both be maximized forever.

The best we can hope for, relying on Simon's approach, is a "benign demographic transition," in which the world's population will rise along with the increase in per capita welfare until countries such as India are roughly as rich per capita as modern Germany. At this point, like Germany, these once-poor countries will develop population stasis. And through this whole process, some technology now unknown will solve all the problems of pollution, erosion, etc.

No one contemplating the prospective environmental burden described by the Ehrlichs can be confident that such a "benign demographic transition" will occur or that population-growth-driven conditions won't be ghastly in 100 years or less. For one thing, the technological development that is necessary to permit a peacetime population increase will also make weapons both more effective and more generally available in a more crowded world.

CHARLES T. MUNGER
Vice Chairman of the Board
Berkshire Hathaway
Los Angeles

CORRECTION

A table accompanying the story "Junk's Bad Times Are Just Starting" (June 4) incorrectly presented information drawn from Conning & Co., a research firm specializing in the insurance industry, about the junk bond holdings of life insurers. The table was titled "Junk Losses of the Biggest Insurers." In fact it listed only three of the 25 largest insurance companies. Many of the insurers not listed have substantial junk bond holdings, some of them larger than the holdings of many of the companies listed.

The figures for the market value of junk bonds held as of December 31, 1989, were actually Conning's values for all bonds. The two columns of figures in the table pertaining to the decline in the value of junk bond holdings actually represented the reported decline in the value of all bonds. FORTUNE *regrets the error.*

The correct figures for the junk bond holdings of the companies in the original table, as carried on the books of those companies, are as follows:

INSURANCE COMPANY	TOTAL JUNK HOLDINGS $ millions*
EQUITABLE LIFE	$2,078.5
EXECUTIVE LIFE CALIFORNIA	$6,459.5
JACKSON NATIONAL	$1,093.4
TRANSAMERICA LIFE	$136.6
KEYSTONE PROVIDENT	$320.3
AID ASSN. FOR LUTHERANS	$78.1
AMERICAN FAMILY	$6.0
NEW ENGLAND MUTUAL	$424.1
PACIFIC MUTUAL	$286.7
EQUITABLE VARIABLE	$460.7
LUTHERAN BROTHERHOOD	$302.4
KEMPER INVESTORS	$627.8
PENN MUTUAL	$114.9
MINNESOTA MUTUAL	$113.1
GENERAL AMERICAN	$115.1
SOUTHWESTERN LIFE	$261.6

*At 12/31/89

SOURCE: CONNING & CO.

Address letters to FORTUNE, Time & Life Building, Rockefeller Center, New York, N.Y. 10020. Letters may be edited for purposes of clarity or space.

THE GREAT CEO PAY SWEEPSTAKES

Had a terrific year? You could earn a mint—or a pittance. Top bosses often aren't paid according to performance. Startling new evidence says that might not matter.

■ *by Graef S. Crystal*

TOP PAY, TOP PERFORMANCE

DAVID STRICK, ONYX

Disney's Eisner

JOYCE RAVID

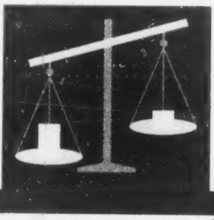
A&P's Wood

IF YOU THINK American CEOs are overpaid, you'll find this latest news depressing: They're making more than ever, and the connection between their pay and performance is weakening.

These are among the results of FORTUNE's third annual survey of CEO compensation. The study examines CEO pay at 200 major companies drawn primarily from the largest enterprises on the FORTUNE Industrial 500 and Service 500 lists. As in previous studies, foreign-owned companies and companies at which the CEO has not served an entire fiscal year in that position have been excluded. Also as in the past, a standard computer program for performing the statistical technique known as multiple regression analysis has calculated how much each CEO would have received had he been paid according to the prevailing standards of the whole group. The program figures the average weights these companies as a group assign to such factors as company size, industry, long-term performance, business risk, and CEO tenure in determining the CEO's compensation. Then it assigns these average weights to each CEO individually in order to arrive at what is called the computer-model pay.

In CEO pay, as in so much else, history is accelerating. It was just over a decade ago that compensation professionals manned the observation towers and began a watch for the first CEO to cross the magic $1-million-per-year line. Their labors were soon rewarded: First a trickle and then a torrent of CEOs entered the seven-digit club. In the mid-1980s a new watch began for the first $2 million man. Now we are dealing not with $3 million men or even $5 million men. We are dealing with $10 million men, and not just one but—count 'em—seven.

In this select group the lowest-paid, if that term can be used at all, is Anthony O'Reilly of H.J. Heinz, who earned $10.4 million last year. The highest-paid, Michael Eisner of Walt Disney, earned $35.4 million. Maybe we Americans can't make a competitively priced TV or VCR any longer, and maybe our cars are losing market share to imports, but when it comes to paying CEOs, the rest of the world had just better get out of our way.



The average pay of all 200 CEOs is an eye-popping $2.8 million, not counting perquisites and such fringe benefits as pensions and insurance. But talk of averages doesn't begin to reflect the status of the $10 million men, who are in a class by themselves. They collectively earned $104 million more last year than their computer-model pay—what they would have received if paid according to the prevailing standards of the group. If their pay had been excluded from the model, the average pay of the remaining 193 CEOs would have dropped by 20%—from $2.8 million to $2.3 million.

How to calculate CEO pay? We start with salary and bonus—that's the easy part. We then consider the value of any grants of restricted stock—shares the executive receives free but may not sell during a restriction period, typically five years—and payouts under other incentive plans. If a CEO receives stock options, we assign them a value at the time of grant. Why not wait until he exercises them and takes his gain, when the precise value can be determined? Because many CEOs don't realize option gains until after retirement, so the gains are never reported. To assign options a value, we use the highly regarded

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GRAEF S. CRYSTAL *was for 20 years one of America's leading compensation consultants. He edits the* Crystal Report on Executive Compensation *and is a professor at the Haas School of Business at the University of California at Berkeley.*

CEOs who most exceeded the computer model's pay . . .

	CEO	COMPANY	PERFORMANCE IQ**	COMPENSATION in thousands		
				ACTUAL	MODEL	PERCENT HIGHER
1	**James Wood**	A&P*	105	**$28,160**	**$3,240**	**769%**
2	**Paul B. Fireman**	REEBOK INTERNATIONAL	100	**$14,610**	**$1,770**	**725%**
3	**Martin S. Davis**	PARAMOUNT	102	**$17,160**	**$2,250**	**663%**
4	**Michael D. Eisner**	WALT DISNEY	114	**$35,410**	**$7,280**	**386%**
5	**Richard K. Eamer**	NAT'L MEDICAL ENT.	99	**$13,840**	**$3,600**	**284%**
6	**Roberto C. Goizueta**	COCA-COLA	108	**$10,640**	**$3,220**	**230%**
7	**Alan C. Greenberg**	BEAR STEARNS	99	**$4,530**	**$1,540**	**194%**
8	**S. Parker Gilbert**	MORGAN STANLEY	108	**$7,170**	**$2,930**	**145%**
9	**Richard L. Gelb**	BRISTOL-MYERS SQUIBB	105	**$6,590**	**$2,770**	**138%**
10	**Anthony J. O'Reilly**	H.J. HEINZ	106	**$10,360**	**$4,420**	**134%**

*For fiscal year ended 2/28/89. **Elements of Performance IQ: total return to investors during CEO's tenure, ten-year trend in total return, five-year average ratio of stock price to book value, five-year growth of sales and assets, five-year volatility of sales and asset growth, five-year average return on equity, five-year trend in return on equity.

Black-Scholes option pricing model.

A CEO receives salary and bonus every year, but the other forms of compensation may occur less often, so counting their entire value in a single year could be unfair. We therefore spread their value over three years, including one-third in this year's pay figure, one-third next year, and one-third the year after that.

Are the biggest earners worth what they get? In a few cases, company performance has been so excellent that shareholders might feel it was bad taste even to bring up the subject of excessive pay. Examples: Disney under Eisner and Apple under John Sculley. But in a disheartening number of other cases, no claim to superior corporate performance supports the CEOs' exceedingly high pay. Examples: National Medical Enterprises under Richard Eamer and Salomon under John Gutfreund.

CEO pay is not entirely senseless. The computer program that calculates the prevailing compensation standards of the group also reveals which factors do and don't influence pay levels. For example, company size has an effect. A 10% increase in size—measured by a combination of sales, assets, and number of employees—brings an average 2% increase in pay.

LONG-TERM company performance is another influence. This study summarizes it in a compound rating called Performance IQ, which comprises three stock-market-related measures and six accounting measures (see footnote for details). The average Performance IQ for the group is 100, and a ten-point rise in Performance IQ earns a 24% increase in pay. Riskier companies pay more: When Beta, the widely used measure of stock price volatility, rises from 1 to 1.1, CEO pay tends to rise 4%.

All that makes sense. Other influences don't. For example, tenure with the company turns out to be a *negative* influence. On average, an extra five years of service with a company (not necessarily as CEO) means earning 6% less. And if your company is based in Manhattan, you can expect—all other things being equal—to earn 33% more than if it isn't. Yet the Manhattan-based companies in the study performed no better than the others.

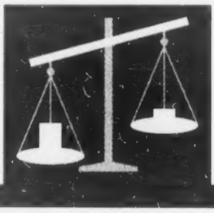
REPORTER ASSOCIATE *Antony Michels*

LOW PAY, TOP PERFORMANCE

ROB KINMONTH

Wal-Mart Stores CEO David Glass

Still other factors that you might expect to figure importantly in CEO pay do not. For the first time, this year's study failed to uncover any significant pay differentials among industries. Even the power utilities, heretofore the lowest-paying of all industry groups, pay no less and no more than other industries after you account for size, overall performance, and other factors.



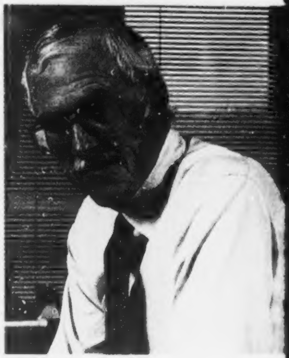
All these influences—company size, performance, business risk, and the others—together account for 45% of the variation in CEO pay. What does that say about the remaining 55% of pay variation? It says, unhappily, that this remaining variation has nothing whatever to do with these many factors. In other words, it says that the market for CEO services is chaotic.

It may be getting even more so. Scarcely anyone would dispute that company performance ought to be a major factor, if not the major factor, in setting CEO pay. Yet the link between the two seems to be weakening. Two years ago in this study a ten-point increase in Performance IQ was good for a 31% rise in pay. Last year the percentage dropped to 26%, and this year, as noted, it is 24%. More unsettling, the primary reason for linking pay and performance—namely, that this will motivate the CEO to perform better—may be invalid (see box, page 102). Even if it is, of course, there remains the secondary reason, which is that paying more for better performance is simply fair and just—as long as the company also lowers pay for poor performance.

Other trends and notable events that emerge from a close reading of 200 proxies:

■ A few companies really do seem to play the pay game fairly. Lee Iacocca and his top executives at Chrysler took no bonus last year—an isolated compensation event among the Big Three automakers, all of which suffered significant profit declines. After a bad year, three top officers of Eastman Kodak had their bonuses reduced by a total $1.1 million. And the top executives of Itel receive stock options that feature a 5% annual increase in the strike price (what the executive must pay to ex-

TOP PAY, AVERAGE PERFORMANCE



ALAN LEVENSON

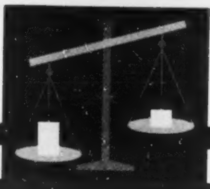
Eamer of National Medical Enterprises

Tables below and on subsequent pages show what 200 CEOs made last year and what they would have made if each company had followed the group's average pay practices, as described in the text. Companies that pay far more or less than the norms may have good reasons: A CEO may deserve a reward for saving the company, or he may own so much stock that he doesn't need much salary. But frequently no reason is apparent.

. . . and those who lagged furthest behind

	CEO	COMPANY	PERFORMANCE IQ	COMPENSATION in thousands ACTUAL	MODEL	PERCENT LOWER
191	**Michael W. Wright**	SUPER VALU STORES *	101	**$1,160**	**$3,230**	**–64%**
192	**M. Anthony Burns**	RYDER SYSTEM	98	**$1,410**	**$4,010**	**–65%**
193	**Leon Hess**	AMERADA HESS	94	**$300**	**$930**	**–68%**
194	**George M.C. Fisher**	MOTOROLA	98	**$1,180**	**$3,680**	**–68%**
195	**A. Dano Davis**	WINN-DIXIE STORES	102	**$530**	**$1,660**	**–68%**
196	**James T. Lynn**	AETNA LIFE & CASUALTY	98	**$1,450**	**$4,590**	**–68%**
197	**James C. Cotting**	NAVISTAR INTERNATIONAL	94	**$590**	**$1,900**	**–69%**
198	**Lew R. Wasserman**	MCA	101	**$560**	**$2,280**	**–75%**
199	**David D. Glass**	WAL-MART STORES †	109	**$840**	**$3,490**	**–76%**
200	**Harold B. Finch Jr.**	NASH-FINCH	102	**$380**	**$1,720**	**–78%**

*For fiscal year ended 2/28/89. †For fiscal year ended 1/31/89.



ercise the option). Since the managers could increase the shareholders' wealth by at least 5% just by investing in a passbook savings account, it seems fair that they should have to beat that return before making money on options.

■ Restricted stock—the nearest thing in the executive suite to union featherbedding—continues its rapid spread. In my 1988 study only 26 CEOs received a restricted stock grant during the previous year. The figure has now climbed to 42. Indeed, 58 of 110 CEOs who have been in the study for the past three years have received a grant at some time during that period.

■ Companies are increasingly paying

Isn't someone missing?

■ Answer: Yes. Steven J. Ross, co-CEO of Time Warner (parent of FORTUNE's publisher), is not included in this survey. Under rules we set more than two years ago, we exclude companies that got a new CEO during the year under study, and Ross became co-CEO of Time Warner last year when Time Inc. began its acquisition of Ross's Warner Communications.

But writing an article on executive compensation without mentioning Ross would be like writing an article on baseball's greatest heroes and omitting Babe Ruth. So here's where he stands. Ross received $4.8 million in salary and bonus in 1989. He also got an equity unit payout of $17.7 million, which, like all such awards in this survey, is spread over three years; so $5.9 million is included here. And he received long-term stock incentives valued at $52 million on January 1, 1987. That sum is also spread over three years, of which 1989 was the third year; so one-third of the amount, or $17.3 million, is counted toward 1989 pay. Total: $28 million.

That is some $7 million less than Disney's Eisner, who ranks first in pay among the CEOs studied, and about the same as what A&P's James Wood received. Note also that on January 10, 1990, Ross received a mammoth stock option grant of 1,800,000 shares at a strike price of $150 a share (well above the market price then or now). That will increase his pay in next year's survey. And Ross's performance? Too early to say at Time Warner. But while he was at Warner, its total return to shareholders over the past 17 years averaged a standout 23% annually.

LOUIS PSIHOYOS—MATRIX

Time Warner's Ross

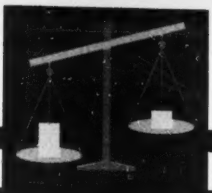
CEOs who exceeded the computer model's pay

	CEO	COMPANY	PERFORMANCE IQ	COMPENSATION in thousands ACTUAL	MODEL	PERCENT HIGHER
11	**Rand V. Araskog**	ITT	94	**$6,410**	**$3,170**	**102%**
12	**Gerald Grinstein**	BURLINGTON NORTHERN	100	**$3,310**	**$1,700**	**95%**
13	**J. Peter Grace**	W.R. GRACE	96	**$4,500**	**$2,470**	**82%**
14	**Reuben Mark**	COLGATE-PALMOLIVE	104	**$6,190**	**$3,410**	**82%**
15	**Stephen M. Wolf**	UAL	109	**$8,770**	**$4,890**	**79%**
16	**John H. Gutfreund**	SALOMON	88	**$5,190**	**$2,920**	**78%**
17	**Winton M. Blount**	BLOUNT*	95	**$1,560**	**$900**	**73%**
18	**John Sculley**	APPLE COMPUTER	111	**$6,070**	**$3,600**	**69%**
19	**William D. Ruckelshaus**	BROWNING-FERRIS	107	**$5,590**	**$3,390**	**65%**
20	**Robert L. Crandall**	AMR	96	**$5,440**	**$3,660**	**49%**
21	**Vernon R. Loucks Jr.**	BAXTER INT'L	96	**$3,240**	**$2,180**	**49%**
22	**T. Marshall Hahn Jr.**	GEORGIA-PACIFIC	101	**$5,280**	**$3,800**	**39%**
23	**Robert E. Mullane**	BALLY MFG.	95	**$3,990**	**$2,940**	**36%**
24	**William M. Agee**	MORRISON KNUDSEN	92	**$1,990**	**$1,470**	**35%**
25	**James W. Kinnear**	TEXACO	98	**$3,260**	**$2,460**	**33%**
26	**James J. Renier**	HONEYWELL	94	**$2,450**	**$1,870**	**31%**
27	**Charles S. Sanford Jr.**	BANKERS TRUST N.Y.	92	**$3,700**	**$2,850**	**30%**
28	**David S. Tappan Jr.**	FLUOR	93	**$2,690**	**$2,080**	**29%**
29	**Armand Hammer**	OCCIDENTAL PETROLEUM	96	**$3,480**	**$2,750**	**27%**
30	**Andrew C. Sigler**	CHAMPION INT'L	96	**$3,110**	**$2,600**	**20%**
31	**John W. Teets**	GREYHOUND	97	**$2,990**	**$2,570**	**16%**
32	**B. F. Dolan**	TEXTRON	100	**$3,480**	**$3,040**	**14%**
33	**William P. Stiritz**	RALSTON PURINA	109	**$3,990**	**$3,490**	**14%**
34	**Robert Cizik**	COOPER INDUSTRIES	101	**$1,880**	**$1,650**	**14%**
35	**Edward L. Hennessy Jr.**	ALLIED-SIGNAL	94	**$3,690**	**$3,300**	**12%**
36	**John A. Georges**	INT'L PAPER	102	**$4,620**	**$4,180**	**11%**
37	**Zane E. Barnes**	SOUTHWESTERN BELL	99	**$3,400**	**$3,080**	**10%**
38	**Frederick W. Smith**	FEDERAL EXPRESS	100	**$2,570**	**$2,330**	**10%**
39	**James R. Stover**	EATON	98	**$1,420**	**$1,290**	**10%**
40	**Howard M. Love**	NATIONAL INTERGROUP	88	**$2,100**	**$1,910**	**10%**
41	**John F. Welch Jr.**	GENERAL ELECTRIC	102	**$5,990**	**$5,470**	**10%**
42	**P. Roy Vagelos**	MERCK	116	**$5,740**	**$5,280**	**9%**
43	**Lodwrick M. Cook**	ATLANTIC RICHFIELD	102	**$3,150**	**$2,930**	**8%**
44	**Robert E. Allen**	AT&T	101	**$2,330**	**$2,170**	**7%**
45	**Allen E. Murray**	MOBIL	100	**$3,460**	**$3,250**	**6%**
46	**Orion L. Hoch**	LITTON INDUSTRIES	96	**$2,090**	**$2,030**	**3%**
47	**William A. Schreyer**	MERRILL LYNCH	91	**$3,500**	**$3,430**	**2%**
48	**James R. Harvey**	TRANSAMERICA	98	**$1,840**	**$1,810**	**2%**
49	**Allen Born**	AMAX	97	**$1,930**	**$1,920**	**1%**
50	**August A. Busch III**	ANHEUSER-BUSCH	106	**$4,120**	**$4,100**	**0%**
51	**Carl E. Reichardt**	WELLS FARGO	105	**$2,470**	**$2,460**	**0%**
52	**J. L. Ketelsen**	TENNECO	98	**$2,660**	**$2,650**	**0%**

CEOs who trailed the computer model's pay

	CEO	COMPANY	PERFORMANCE IQ	ACTUAL	MODEL	PERCENT LOWER
53	**Barry F. Sullivan**	FIRST CHICAGO	98	**$2,040**	**$2,050**	**0%**
54	**H. B. Atwater Jr.**	GENERAL MILLS	108	**$3,220**	**$3,290**	**–2%**
55	**John F. Akers**	IBM	96	**$4,530**	**$4,650**	**–3%**
56	**Thomas G. Plaskett**	PAN AM	90	**$1,740**	**$1,790**	**–3%**
57	**Robert McClements Jr.**	SUN	90	**$1,280**	**$1,340**	**–4%**
58	**Robert A. Schoellhorn**	ABBOTT LABS	108	**$3,730**	**$3,910**	**–5%**
59	**Edwin I. Colodny**	USAIR	95	**$1,390**	**$1,490**	**–7%**

*For fiscal year ended 2/28/89.



part of top executives' personal income taxes—regardless of where tax rates go. Morrison Knudsen "grosses up" the pay of executives for the tax on perks, such as personal use of the company aircraft. Bally, Georgia-Pacific, and Coca-Cola, among other companies, assume all or a hefty portion of the taxes that executives must pay whenever restrictions lapse on their restricted stock grants.

■ Merrill Lynch CEO William Schreyer earned $52,900 last year from Merrill-sponsored limited partnerships in which he had invested only $100,000. Nothing at all wrong with that. In fact, in light of Merrill's stock's performance—from a high of $36 last year it has dropped to around $23—maybe Schreyer should have put some of the shareholders' money into those partnerships.

■ Option swapping hasn't died. It

The 1990 Proxy Obfuscation Award

Maybe the directors of Southwestern Bell ought to consider diversifying into the cemetery business, because they sure are good at burying things. The winner of the 1990 Proxy Obfuscation Award managed to give retiring CEO Zane E. Barnes some $2.5 million of stock and not report the gift at all.

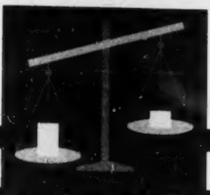
Barnes and other senior executives of Southwestern Bell participate in a plan that awards them shares based on the company's performance during three-year periods. A new three-year period starts each year. The company's latest proxy fully reports Barnes's award of 14,337 shares for the 1986–88 period. But when Barnes retired at the end of 1989, he also received full share payouts for the 1987–89 period and for two periods that are not yet over, 1988–90 and 1989–91. The proxy made no mention of these payouts, which totaled about 45,000 shares, recently worth around $52 each. The only trace was the near-doubling of Barnes's reported shareholdings in a single year. Could it be that another CEO was emulating Citicorp chief John Reed, whose shareholdings abruptly rose late in 1988 as he implemented the totally novel idea of using his own money to buy his company's stock? No. A call to Southwestern Bell revealed what had happened.

Citicorp deserves praise for the huge strides it has made in proxy disclosure. Winner of our 1988 Proxy Obfuscation Award for strewing Reed's pay information across some 20 pages of numbing text, the company measurably improved last year and this year has produced the clearest proxy reporting of compensation that we have ever seen. Bell Atlantic, winner of our 1989 award, has also made significant improvement.

CEOs who trailed the computer model's pay

	CEO	COMPANY		COMPENSATION in thousands		
			PERFORMANCE IQ	ACTUAL	MODEL	PERCENT LOWER
60	**Charles M. Harper**	CONAGRA	105	$3,690	$3,970	–7%
61	**John A. Young**	HEWLETT-PACKARD	100	$3,620	$3,900	–7%
62	**John C. Marous**	WESTINGHOUSE ELECTRIC	99	$2,420	$2,620	–8%
63	**Charles W. Moritz**	DUN & BRADSTREET	103	$2,720	$2,950	–8%
64	**Arnold B. McKinnon**	NORFOLK SOUTHERN	98	$1,330	$1,460	–9%
65	**Drew Lewis**	UNION PACIFIC	98	$3,230	$3,590	–10%
66	**Walter V. Shipley**	CHEMICAL BANKING	94	$2,370	$2,660	–11%
67	**Raymond W. Smith**	BELL ATLANTIC	103	$1,570	$1,780	–12%
68	**George J. Sella Jr.**	AMERICAN CYANAMID	102	$1,420	$1,630	–13%
69	**J. Carter Bacot**	BANK OF NEW YORK	99	$1,270	$1,460	–13%
70	**Richard D. Wood**	ELI LILLY	107	$1,460	$1,680	–13%
71	**David C. Farrell**	MAY DEPARTMENT STORES *	101	$2,450	$2,850	–14%
72	**Thomas H. O'Brien**	PNC FINANCIAL	102	$1,440	$1,690	–15%
73	**L. G. Rawl**	EXXON	101	$3,730	$4,380	–15%
74	**John J. Murphy**	DRESSER INDUSTRIES	95	$1,070	$1,260	–15%
75	**John G. Smale**	PROCTER & GAMBLE	102	$2,750	$3,270	–16%
76	**Harold E. Sells**	F.W. WOOLWORTH *	106	$1,660	$1,990	–17%
77	**David W. Grainger**	W.W. GRAINGER	102	$870	$1,050	–17%
78	**Robert D. Kunisch**	PHH	95	$910	$1,100	–17%
79	**A. W. Clausen**	BANKAMERICA	94	$2,530	$3,080	–18%
80	**Lee A. Iacocca**	CHRYSLER	99	$6,120	$7,460	–18%
81	**L. S. Skaggs**	AMERICAN STORES *	98	$2,810	$3,430	–18%
82	**Lewis T. Preston**	J.P. MORGAN	99	$2,740	$3,350	–18%
83	**Richard J. Stegemeier**	UNOCAL	103	$1,250	$1,570	–20%
84	**R. J. Ventres**	BORDEN	103	$2,830	$3,580	–21%
85	**Ralph S. Larsen**	JOHNSON & JOHNSON	108	$1,890	$2,420	–22%
86	**John F. McGillicuddy**	MANUF. HANOVER	94	$2,010	$2,600	–23%
87	**Robert E. Boni**	ARMCO	90	$880	$1,140	–23%
88	**John B. Fery**	BOISE CASCADE	99	$1,180	$1,530	–23%
89	**James D. Robinson III**	AMERICAN EXPRESS	101	$4,270	$5,540	–23%
90	**William E. LaMothe**	KELLOGG	110	$1,070	$1,400	–24%
91	**D. Wayne Calloway**	PEPSICO	110	$4,720	$6,180	–24%
92	**Richard J. Flamson III**	SECURITY PACIFIC	100	$2,680	$3,510	–24%
93	**William D. Smithburg**	QUAKER OATS	106	$1,690	$2,220	–24%
94	**James L. Johnson**	GTE	103	$1,810	$2,390	–24%
95	**Richard J. Mahoney**	MONSANTO	101	$2,740	$3,620	–24%
96	**Edgar S. Woolard Jr.**	DU PONT	102	$2,020	$2,670	–24%
97	**Ira Stepanian**	BANK OF BOSTON	96	$1,350	$1,790	–25%
98	**Samuel Zell**	ITEL	102	$1,930	$2,580	–25%
99	**Richard M. Morrow**	AMOCO	98	$1,880	$2,520	–25%
100	**Hamish Maxwell**	PHILIP MORRIS	110	$3,870	$5,230	–26%
101	**Robert D. Krebs**	SANTA FE PACIFIC	99	$1,610	$2,190	–26%
102	**Donald E. Petersen**	FORD MOTOR	107	$4,560	$6,220	–27%
103	**William O. Bourke**	REYNOLDS METALS	109	$2,750	$3,760	–27%
104	**William L. Weiss**	AMERICAN INF. TECH.	100	$1,480	$2,040	–27%
105	**Frank P. Popoff**	DOW CHEMICAL	108	$2,830	$3,920	–28%
106	**Sam Ginn**	PACIFIC TELESIS	105	$1,370	$1,900	–28%
107	**Ted C. Wetterau**	WETTERAU	103	$1,630	$2,300	–29%
108	**Robert D. Kennedy**	UNION CARBIDE	101	$1,930	$2,760	–30%
109	**Donald R. Beall**	ROCKWELL INT'L	98	$1,360	$1,950	–30%

*For fiscal year ended 1/31/89.



became popular in late 1987 after the October crash put many executives' options underwater. Several sympathetic boards simply called in the old options and gave executives replacements at the new, lower market price.

Special mention goes to Beverly Enterprises, usually included in our study but absent this year because of a change in CEO. This company swapped option shares for its executives not once but twice within 15 months. The original options carried strike prices up to $18.625 per share, discouragingly high when the stock price fell to $8.75. So an openhanded board had Beverly executives turn in their shopworn option agreements for new ones carrying a marked-down strike price of $8.75. Beverly's stock took no notice and plummeted to $4.375, leading a by now overworked board to erase the strike price a second time and substitute a new one of $4.375. If the price of Beverly stock keeps on dropping, the company's future option agreements will have to feature 20-pound bond paper for all pages except the one containing the strike price, and 300-pound paper for that special page. Otherwise all those

Thanks for the raise. May I offer you one?

CEOs aren't the only ones whose pay is rising remarkably fast. Many companies are sharply increasing what they pay outside directors—who of course decide what to pay the CEO. Not only do some directors receive pensions amounting to 100% of base pay after just five to ten years of board service, but an increasing number also are getting stock options and—hold on to your seat—restricted stock grants. The value of what an outside director of a major company receives can easily top $50,000 a year. These many goodies have been creeping into boardrooms for a few years, but in 1989 they seemed to reach critical mass: Soon it may be an odd company that *doesn't* offer them.

The outside-director pay-setting process is as ritualistic as a Japanese kabuki dance. A perceptive CEO knows that he should call in a consultant every couple of years to review what his outside directors are earning. More often than not, a grave inequity is discovered. The CEO then presents the consultant's report to the board, which reluctantly accepts a big increase in pay. What is happening here? Certainly it could not be that the regulated, namely the CEOs, are attempting to influence the regulators, namely the directors—could it?

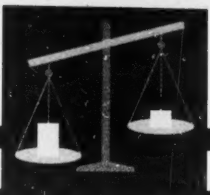
CEOs who trailed the computer model's pay

	CEO	COMPANY	PERFORMANCE IQ	COMPENSATION in thousands ACTUAL	MODEL	PERCENT LOWER
110	**John R. Stafford**	AMER. HOME PRODUCTS	107	**$2,660**	**$3,840**	**-31%**
111	**George A. Roberts**	TELEDYNE	92	**$820**	**$1,200**	**-32%**
112	**Vincent A. Sarni**	PPG INDUSTRIES	103	**$2,360**	**$3,480**	**-32%**
113	**Joseph T. Gorman**	TRW	98	**$1,280**	**$1,890**	**-32%**
114	**Kenneth T. Derr**	CHEVRON	98	**$1,130**	**$1,680**	**-33%**
115	**James R. Eiszner**	CPC INTERNATIONAL	106	**$2,210**	**$3,340**	**-34%**
116	**Ronald W. Allen**	DELTA AIR LINES	98	**$1,760**	**$2,660**	**-34%**
117	**Thomas S. Murphy**	CAPITAL CITIES/ABC	101	**$1,930**	**$2,920**	**-34%**
118	**Allen F. Jacobson**	3M	104	**$2,020**	**$3,060**	**-34%**
119	**William H. Taylor**	CIGNA	97	**$1,200**	**$1,820**	**-34%**
120	**J. W. Marriott Jr.**	MARRIOTT	107	**$1,680**	**$2,560**	**-34%**
121	**Daniel M. Tellep**	LOCKHEED	90	**$930**	**$1,430**	**-35%**
122	**Stanley C. Pace**	GENERAL DYNAMICS	93	**$2,500**	**$3,850**	**-35%**
123	**Edmund T. Pratt Jr.**	PFIZER	101	**$2,180**	**$3,360**	**-35%**
124	**Frank W. Luerssen**	INLAND STEEL	97	**$880**	**$1,370**	**-36%**
125	**David A. Jones**	HUMANA	101	**$1,990**	**$3,120**	**-36%**
126	**David R. Whitwam**	WHIRLPOOL	96	**$1,190**	**$1,870**	**-36%**
127	**Robert W. Weinig**	EASTERN ENTERPRISES	94	**$600**	**$960**	**-38%**
128	**Norman R. Augustine**	MARTIN MARIETTA	99	**$1,780**	**$2,850**	**-38%**
129	**John R. Hall**	ASHLAND OIL	101	**$1,610**	**$2,580**	**-38%**
130	**John H. Bryan Jr.**	SARA LEE	106	**$2,600**	**$4,270**	**-39%**
131	**Maurice R. Greenberg**	AMERICAN INT'L	105	**$1,770**	**$2,910**	**-39%**
132	**Roger W. Stone**	STONE CONTAINER *	105	**$1,240**	**$2,040**	**-39%**
133	**Emil P. Martini Jr.**	BERGEN BRUNSWIG	100	**$1,350**	**$2,230**	**-39%**
134	**Tom H. Barrett**	GOODYEAR TIRE & RUBBER	95	**$990**	**$1,640**	**-40%**
135	**W. S. White Jr.**	AMERICAN ELECTRIC POWER	100	**$660**	**$1,100**	**-40%**
136	**Jack A. MacAllister**	US WEST	100	**$1,600**	**$2,670**	**-40%**
137	**Paul W. Douglas**	PITTSTON	95	**$820**	**$1,370**	**-40%**
138	**C. J. Silas**	PHILLIPS PETROLEUM	99	**$1,610**	**$2,730**	**-41%**
139	**R. Gordon McGovern**	CAMPBELL SOUP	103	**$1,870**	**$3,180**	**-41%**
140	**Charles F. Knight**	EMERSON ELECTRIC	101	**$1,990**	**$3,420**	**-42%**
141	**Thomas L. Phillips**	RAYTHEON	101	**$1,430**	**$2,460**	**-42%**
142	**Willard C. Butcher**	CHASE MANHATTAN	97	**$1,900**	**$3,270**	**-42%**
143	**Ray B. Mundt**	ALCO STANDARD	100	**$1,750**	**$3,040**	**-42%**
144	**Charles E. Exley Jr.**	NCR	103	**$2,100**	**$3,650**	**-42%**
145	**John S. Reed**	CITICORP	99	**$2,710**	**$4,730**	**-43%**
146	**Kenneth H. Olsen**	DIGITAL EQUIPMENT	104	**$2,840**	**$4,960**	**-43%**
147	**William J. Alley**	AMERICAN BRANDS	103	**$2,590**	**$4,570**	**-43%**
148	**Bob G. Gower**	LYONDELL PETROCHEMICAL	111	**$870**	**$1,570**	**-45%**
149	**Thomas W. Field Jr.**	MCKESSON	99	**$1,620**	**$2,950**	**-45%**
150	**W. C. McCord**	ENSERCH	93	**$920**	**$1,680**	**-45%**
151	**Philip E. Lippincott**	SCOTT PAPER	105	**$1,490**	**$2,770**	**-46%**
152	**John L. Clendenin**	BELLSOUTH	100	**$1,590**	**$2,990**	**-47%**
153	**Josh S. Weston**	AUTOMATIC DATA PROC.	105	**$830**	**$1,580**	**-47%**
154	**Burnell R. Roberts**	MEAD	103	**$1,050**	**$2,000**	**-48%**
155	**Edward H. Budd**	TRAVELERS	95	**$1,550**	**$3,040**	**-49%**
156	**Paul H. O'Neill**	ALUMINUM CO. OF AMERICA	101	**$1,800**	**$3,540**	**-49%**
157	**Roger B. Smith**	GENERAL MOTORS	98	**$2,430**	**$4,790**	**-49%**
158	**Darwin E. Smith**	KIMBERLY-CLARK	105	**$1,390**	**$2,750**	**-49%**
159	**Laurence A. Tisch**	CBS	102	**$1,670**	**$3,350**	**-50%**

*1988 data.

erasures are just going to leave a big hole.

Do American CEOs get paid too much? That is a matter of judgment and philosophy, not just numbers and computer models. But surely there is some point beyond which pay becomes excessive. And in light of the pay levels and practices revealed in this year's study, it is hard not to conclude that we're already there.



CEOs who trailed the computer model's pay

	CEO	COMPANY		COMPENSATION in thousands		
			PERFORMANCE IQ	ACTUAL	MODEL	PERCENT LOWER
160	**Francisco A. Lorenzo**	TEXAS AIR	92	**$2,350**	**$4,790**	**-51%**
161	**Preston R. Tisch**	LOEWS	104	**$990**	**$2,020**	**-51%**
162	**Brenton S. Halsey**	JAMES RIVER	98	**$1,190**	**$2,430**	**-51%**
163	**J. J. Pinola**	FIRST INTERSTATE BANCORP	96	**$1,470**	**$3,060**	**-52%**
164	**Walter F. Williams**	BETHLEHEM STEEL	97	**$1,450**	**$3,020**	**-52%**
165	**Robert F. Daniell**	UNITED TECHNOLOGIES	97	**$1,980**	**$4,130**	**-52%**
166	**David T. Kearns**	XEROX	99	**$1,910**	**$4,070**	**-53%**
167	**W. R. Howell**	J.C. PENNEY	102	**$1,790**	**$3,830**	**-53%**
168	**Edward A. Brennan**	SEARS ROEBUCK	96	**$2,260**	**$4,840**	**-53%**
169	**L. Stanley Crane**	CONSOLIDATED RAIL *	97	**$840**	**$1,810**	**-54%**
170	**Thomas V. Jones**	NORTHROP	94	**$890**	**$1,920**	**-54%**
171	**George H. Weyerhaeuser**	WEYERHAEUSER	97	**$1,430**	**$3,100**	**-54%**
172	**John F. McDonnell**	MCDONNELL DOUGLAS	95	**$750**	**$1,630**	**-54%**
173	**D. O. Andreas**	ARCHER DANIELS MIDLAND	102	**$1,360**	**$2,970**	**-54%**
174	**Edwin Lupberger**	ENTERGY	95	**$690**	**$1,510**	**-54%**
175	**Laurence E. Hirsch**	CENTEX	91	**$500**	**$1,110**	**-55%**
176	**George A. Schaefer**	CATERPILLAR	100	**$1,460**	**$3,250**	**-55%**
177	**Jerry Farrington**	TEXAS UTILITIES	98	**$500**	**$1,130**	**-56%**
178	**James J. O'Connor**	COMMONWEALTH ED.	98	**$600**	**$1,370**	**-56%**
179	**Joseph E. Antonini**	K MART	101	**$1,780**	**$4,110**	**-57%**
180	**Jerry R. Junkins**	TEXAS INSTRUMENTS	95	**$1,490**	**$3,460**	**-57%**
181	**E. Dean Werries**	FLEMING	93	**$710**	**$1,690**	**-58%**
182	**Colby H. Chandler**	EASTMAN KODAK	99	**$1,350**	**$3,280**	**-59%**
183	**Richard A. Clarke**	PACIFIC GAS & ELECTRIC	95	**$860**	**$2,100**	**-59%**
184	**David O. Maxwell**	FED. NAT'L MORT. ASS'N	105	**$1,410**	**$3,460**	**-59%**
185	**Lyle Everingham**	KROGER	105	**$1,160**	**$2,850**	**-59%**
186	**John F. Woodhouse**	SYSCO	103	**$1,130**	**$2,840**	**-60%**
187	**Frank Shrontz**	BOEING	100	**$1,560**	**$3,950**	**-61%**
188	**Edward L. Addison**	SOUTHERN	100	**$830**	**$2,150**	**-61%**
189	**W. Michael Blumenthal**	UNISYS	97	**$1,320**	**$3,520**	**-63%**
190	**Jack Twyman**	SUPER FOOD SERVICES	103	**$720**	**$1,960**	**-63%**

*1988 data.

New heresy: Maybe pay doesn't motivate

Nearly everyone believes that CEOs should be paid according to performance, on the theory that this will motivate them to perform better. It just makes sense. Yet impressive new evidence suggests, disturbingly, that this reasoning may not hold up.

The evidence arises from research performed for an article in the current *Harvard Business Review* titled "CEO Incentives—It's Not How Much You Pay, but How." Don't look for the evidence *in* the article, however. As *HBR* editor Rosabeth Moss Kanter summarizes the story: "CEOs are not paid properly—rewarded when the company performs well and penalized when it performs poorly."

That view sounds reasonable, and I have long supported it. But consider the evidence. The authors, professor Michael C. Jensen of the Harvard business school and associate professor Kevin J. Murphy of the University of Rochester business school, examined 430 large companies and calculated how closely changes in the CEO's pay mirrored the performance of the company's stock. They produce two tables, which list the CEOs of the 25 companies with the best incentives—meaning combinations of compensation and shareholdings that are highly sensitive to changes in shareholder value—and the 25 with the worst. But oddly, the article does not report how the performance of these two groups compares. If their theory is correct, the first should have performed much better than the second.

So I compared the two groups. Result: The "best" companies were no better—and no worse—in total return to shareholders than were the "worst." And this applies for shareholder return periods ranging all the way from one year to ten years.

Intrigued, I looked at the data for all 430 companies. For each one the authors had come up with two figures showing how sensitive the CEO's compensation was to company performance. One was based on the CEO's pay; the other was based on his pay plus the value of his shareholdings. Using standard statistical techniques, I looked for a relationship between pay-for-performance sensitivity on the one hand and total return to shareholders on the other. If Jensen and Murphy—and the overwhelming weight of opinion about CEO pay—are right, there should be a strong relationship.

In looking, I used both measures of pay sensitivity, and for each one I examined total return to shareholders over the past year, two years, three years, and so on through the past ten years. I thus performed 20 separate analyses, each involving more than 400 companies. Result: In every case—20 out of 20—there was no significant relationship.

Jensen and Murphy argue vigorously for tying the CEO's fortunes more strongly to the company's by making him or her a much larger stockholder, and they simply assume that this will improve performance. The real-world effect of this recommendation is not in much doubt: Compensation committees, citing the *HBR* article, will pile tons of shares, in the form of stock options or restricted stock, *on top of* their CEOs' current pay packages.

AIRPORT 2000— A HORROR STORY?

You know all about delayed flights, gridlocked runways, crowded terminals. You haven't seen anything yet. Only a burst of building can head off more trouble.

■ *by Kenneth Labich*

TRAVELERS' ADVISORY: In just a few years, things could get very, very ugly. Along with mobs of weary souls, you will be stranded for hours at U.S. terminals whenever the weather turns bad. Even under clear skies, you will face long delays almost every time you fly. Forget that last-minute business trip—every seat on nearly every flight may be booked weeks in advance. This is the way air travel could end up in the U.S., no bang but a whole lot of whimpering.

According to the most modest projections, 800 million passengers annually will travel by plane by the year 2000; the U.S. air traffic system is already straining under a yearly burden of less than 500 million. Airports have not kept pace with passenger volume, and will have a hard time catching up. The Department of Transportation (DOT) has identified 21 major airports subject to heavy delays—20,000 plane-hours or more a year—and predicts that another 20 will join the list by 1998. Says Transportation Secretary Samuel K. Skinner: "This level of delays is unacceptable, but the situation may worsen. Nobody anticipated the demand."

The DOT estimates that delays cost the airlines and U.S. businesses at least $5 billion each year in fuel costs and wasted time.

Wide open spaces, few hostile neighbors, and minimal environmental worries help explain why Denver is uniquely able to build a new $2.3 billion airport.

In addition, state and local economies depend on the revenues and commercial activity generated by their airports. Oris W. Dunham Jr., executive director of Dallas–Fort Worth International Airport, claims that two new runways at DFW would bring in an extra $30 billion over the next ten years.

Will larger airplanes help move passengers more efficiently? Not really. They are cost-effective only on well-traveled routes, and airlines will still need many smaller aircraft to shuttle passengers into and out of the bigger airports. What's needed is a burst of building on a grand scale. The six key air hubs—New York, Chicago, Los Angeles, Dallas, Denver, and Atlanta—will all require new airports before long, and a score or more smaller cities will need to expand runways, terminals, parking lots, and access roads. A ten-year, $77 billion development program is necessary, and it cannot begin soon enough. No major new airport that is just in the planning stages could be open for business until the next century. Says Ramon Ricondo, a Chicago airport consultant: "You could start digging today, and you would still have a big problem."

Not nearly enough digging is under way. Consider the obstacles. Many big-city airports, plunked down decades ago amid rolling fields, are now ringed by densely populated suburbs, which are filled with community activists, quick to oppose any project that will allow more flights. Airports, says Dunham, have become as popular as garbage dumps and insane asylums. Even a community that appreciates an airport's economic benefits can grow weary of noise and congestion. Says Dunham: "Living near an airport is like being married to a very wealthy person who snores."

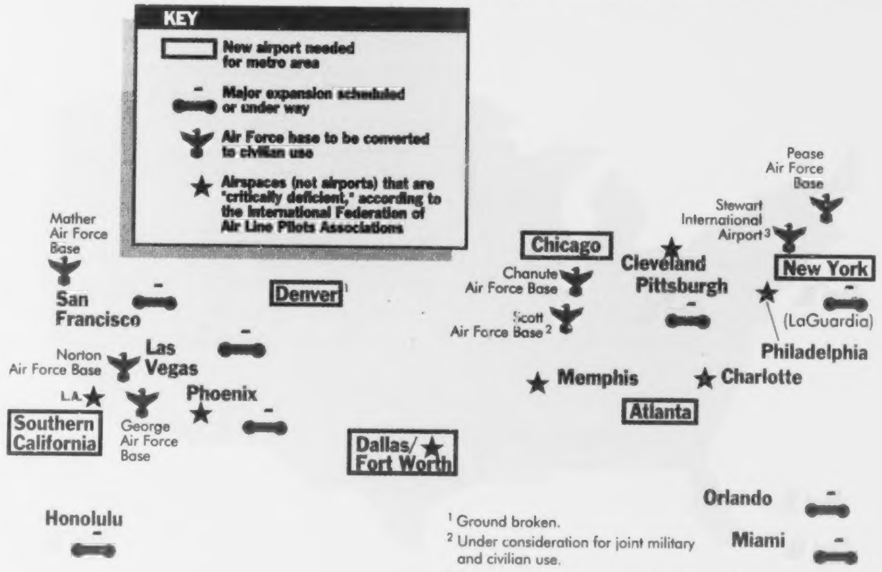
Muddled management at many airports adds to the problem. Most major facilities are operated by municipal or county authorities, often hypersensitive to community pressures or local politics. When a big development project is approved, the authorities may choose local architects and engineers with little or no aviation experience. Result: a terminal where passengers have to triple-park to unload their baggage or trudge for what seems to be miles between gates. "The U.S. is full of airports that are failures, designed by incompetents," says a senior aviation planner. Among the bad examples cited by experts in the field: New York's LaGuardia, Pittsburgh's International, and Washington's National.

REPORTER ASSOCIATE *Rosalind Klein Berlin*

Airport managers must also please diverse constituents. The Federal Aviation Administration, responsible for safe operations at the site, can unleash a blizzard of bureaucratic objections on everything from runway placement to where the parking lot should go. The airlines can tie up plans for months, even years, as they bicker over the costs, size, and architectural details of their terminal space. Big carriers that dominate a market may be especially recalcitrant about freeing up gates to some rival.

Federal officials have been slow to release funds for airport development. The Aviation Trust Fund, supported by an 8% ticket tax, has grown to $7 billion or more—one of the government's rare surpluses. Skinner, who usually receives higher marks than his predecessors from industry critics, says the money will be used up quickly in the next few years as expensive control-tower technology comes on line. Congress is studying a plan to fund airport development through so-called passenger facility charges. The airlines would collect the fees as part of the fare—they would vary from airport to airport but would probably be less than $3 per flight. Then the airlines would plow the funds back to the airports listed on the ticket. As supporters see it, the plan's appeal is that the money would not have to filter through the federal bureaucracy.

IN SEARCH OF NEW CAPACITY: A STATUS REPORT


KEY
New airport needed for metro area
Major expansion scheduled or under way
Air Force base to be converted to civilian use
Airspaces (not airports) that are "critically deficient," according to the International Federation of Air Line Pilots Associations
Mather Air Force Base
San Francisco
Denver[1]
Norton Air Force Base
Las Vegas
L.A.
Southern California
George Air Force Base
Phoenix
Dallas/Fort Worth
Honolulu
Chicago
Chanute Air Force Base
Scott Air Force Base[2]
Cleveland
Pittsburgh
Memphis
Atlanta
Charlotte
Pease Air Force Base
Stewart International Airport[3]
New York
(LaGuardia)
Philadelphia
Orlando
Miami

[1] Ground broken.

[2] Under consideration for joint military and civilian use.

[3] Commercial passenger service began 4/17/90.

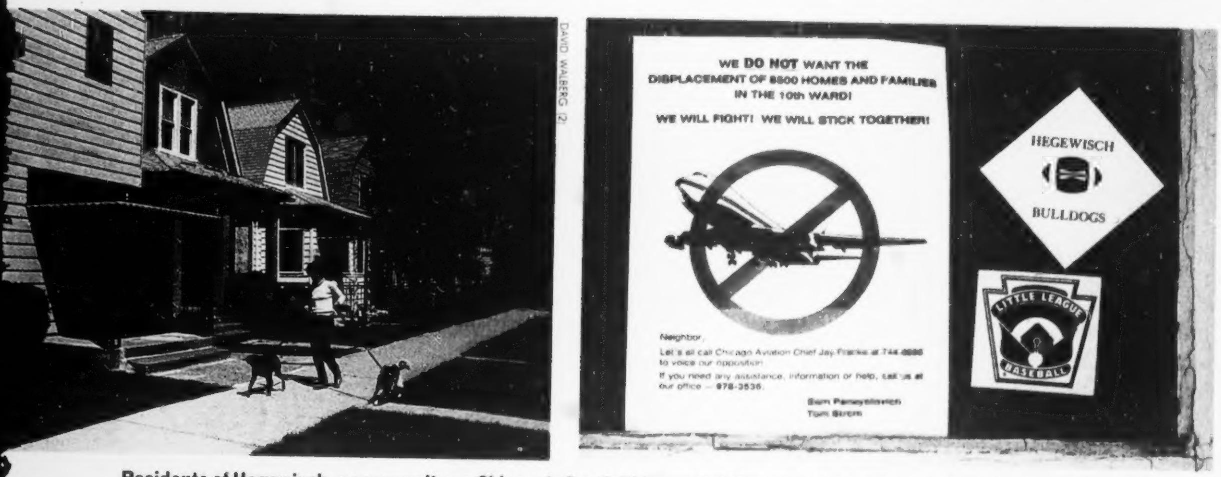
Air traffic snarls at major hubs, particularly New York and Chicago, can screw up the nationwide system. But those cities are exactly where the population is most dense and the obstacles to development most frustrating. Says Jack Bishop, an associate with the engineering firm Burns & McDonnell: "Where we need airports the most are where they are the toughest to build."

Delays were up sharply last year at all three New York airports—Kennedy, LaGuardia, and Newark—and the future promises more of the same. The Port Authority of New York and New Jersey, which operates the facilities, projects that passenger volume will grow from 75 million or so a year to 115 million by 2000.

Embattled local officials concede the looming capacity gap, and say the only long-term solution is to carve space for a fourth airport out of the region's teeming population centers. That proposition is not even close to the drawing boards because of the fierce opposition sure to come from local homeowners. Jim Muldoon, a senior Port Authority official, seems resigned: "I don't think there's any question our airports will be among those with the most delays." To avoid some of them, American Airlines has begun a few flights a week out of Stewart International Airport, a former U.S. Air Force base about 60 miles up the Hudson from New York City and well beyond the Port Authority's purview.

Aviation planners in Chicago are further along, though they could face years of politi-

PHOTOGRAPH BY PAUL CHESLEY


DAVID WALBERG (2)
WE DO NOT WANT THE
DISPLACEMENT OF 8500 HOMES AND FAMILIES
IN THE 10th WARD!
WE WILL FIGHT! WE WILL STICK TOGETHER!
Neighbor,
to voice our opposition
If you need any assistance, information or help, call us at our office — 978-3536.
HEGEWISCH
BULLDOGS
LITTLE LEAGUE
BASEBALL

Residents of Hegewisch, a community on Chicago's South Side, are battling plans to build a new airport, the city's third.

cal wrangling before they can pour concrete. Without a serious expansion effort, giant O'Hare and tiny Midway airports will be overwhelmed. The local passenger load is expected to more than double, to 130 million annually, by 2010. Officials would like to deal with the overflow in the short term by adding two runways at O'Hare, then start building a third airport in the Lake Calumet area on the city's southeast side.

The development program, which has the strong backing of Mayor Richard M. Daley and what's left of his Democratic political machine, has some merit. O'Hare is already the country's most congested airport, with over 100,000 hours in annual delays that ripple through the air traffic system, causing trouble from coast to coast. The city's plan for a third airport makes sense too. The field would be located in a sparsely settled area about a half-hour from downtown that is dotted with abandoned steel plants and toxic waste dumps. Industrial activity has dwindled in that quarter over the years, and employment has dropped 35%. Planners claim the airport eventually would produce 200,000 jobs and $14 billion in annual revenues. Says Robert J. Repel, a Daley assistant who heads the development effort: "This is a model public-works project that could signal a rebirth of part of the Rust Belt."

As in any big city, airport opponents are everywhere. Population growth has been spectacular in the suburbs near O'Hare, and an estimated 78,000 homes surround the field. The city's plan to add runways has been met with outrage. The new South Side airport project has also attracted critics. Leaders from Hegewisch, a close-knit Eastern European community that would be wiped out by the airport project, have organized a vocal protest movement. Meanwhile, politicians from outlying Illinois towns and neighboring Indiana are casting covetous eyes on the economic bonanza of a new airport. A bi-state commission is studying several sites farther from the city, but no decision is expected soon.

On the plus side, the FAA's program to replace aging technology is finally paying off. Airline executives and airport planners grumble about the glacial pace of the change, but no one doubts the crucial role that the new equipment must play in the race to keep ahead of passenger demand. Says Joseph Del Balzo, the FAA's executive director of systems development: "Without this new technology, the system would have ground to a halt by now."

The FAA's $15.8 billion plan, begun in 1981, is built around mainframes that provide instantaneous traffic and weather data to 20 control centers around the country. New radar systems and wind-shear detectors are in place at most big airports, and airborne collision avoidance systems will be standard in most cockpits within three years.

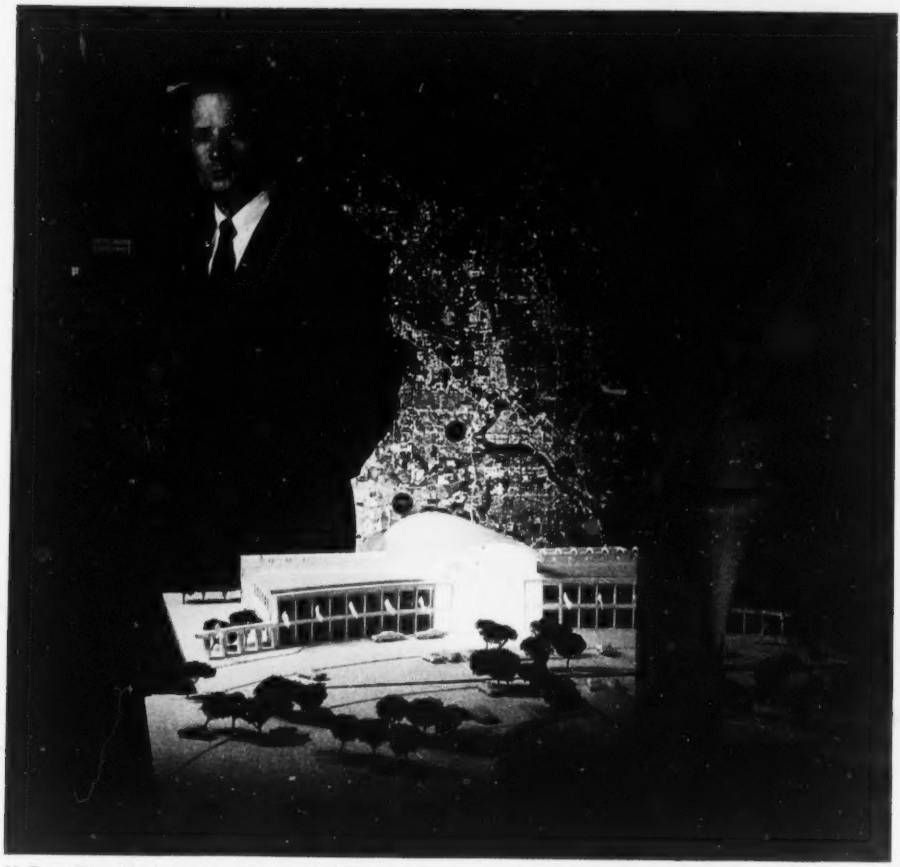
So far, the airlines have resisted the FAA's call for microwave landing systems (MLS) because they would cost about $200,000 each. But when the price comes down, this technology will allow more planes to land per hour in poor weather. Del Balzo estimates that if all aircraft landing at New York's three big airports were equipped with MLS, the annual capacity boost would amount to about one-half of an entirely new facility.

Another new radar, developed by Allied-Signal Aerospace, is being tested at the Raleigh-Durham airport. The system, called Precision Runway Monitor radar, uses an

RATING THE U.S. AIRPORTS

BUSIEST AIRPORTS 1989	TOTAL NUMBER OF PASSENGERS in millions	DISTANCE FROM CITY CENTER in miles	PERCENT OF OPERATIONS DELAYED 15 MINUTES OR MORE
O'HARE/Chicago	59.1	17	10.2%
DALLAS–FORT WORTH INTERNATIONAL	47.6	15	2.4%
LOS ANGELES INTERNATIONAL	45.0	15	1.0%
HARTSFIELD/Atlanta	43.3	10	2.3%
JOHN F. KENNEDY/New York	30.3	15	6.0%
SAN FRANCISCO INTERNATIONAL	29.9	14	7.0%
STAPLETON/Denver	27.6	5	2.6%
MIAMI INTERNATIONAL	23.4	7	0.2%
LAGUARDIA/New York	23.2	8	9.4%
HONOLULU	22.6	4	under 0.1%
LOGAN/Boston	22.3	3	3.0%
DETROIT METRO	21.5	21	1.6%
NEWARK INTERNATIONAL	20.9	16	10.3%
SKY HARBOR/Phoenix	20.7	4	0.7%
LAMBERT/St. Louis	20.0	12	2.8%

SOURCES: AIRPORT OPERATORS COUNCIL INT'L, FAA



STEVEN PUMPHREY

H. Ross Perot Jr. has recently opened Alliance Airport, a privately operated cargo facility in Fort Worth.

electronic scanning technique to permit simultaneous landings on runways that are closer than the 4,300-foot minimum currently required for instrument conditions. In bad weather, that could translate into a 40% or 50% capacity increase at some airports.

Among the other ways to whittle away the capacity crisis, carriers might be forced to stagger their schedules even more than they have to avoid the early-morning and early-evening crunch times. Some airport managers—at New York's Kennedy and LaGuardia, for example—have boosted landing fees to discourage corporate aircraft and other small planes from these peak periods. New vertical-takeoff aircraft could open inner-city heliports to more commercial traffic; new planes with wings that fold up on the tarmac could allow for a snugger fit between gates.

The clearest sign of progress is Denver's construction of a $2.3 billion airport to replace 60-year-old Stapleton. Denver International will be the first big new U.S. airport since Dallas–Fort Worth was completed in 1974, and will be among the world's largest.

Denver enjoys the rare luxury of wide open spaces not far from the city limits, and so finding a suitable site was far less difficult than in some densely packed Eastern metropolises. The city was able to buy a 53-square-mile parcel only about a half-hour from downtown. The land, mostly used for dry-land wheat farming, was sparsely settled and presented few environmental obstacles. Says Richard F. Veazey, the new airport's chief planner: "As far as the birds and bunnies go, we are in great shape."

Opponents charged the airport was unnecessary, but Mayor Federico Peña and much of the business community fought hard for it. Among the most persuasive documents in the debate was an economic-impact study done for Colorado National Bankshares Corp. It concluded that a new airport would produce, directly or indirectly, about 90,000 jobs in the region between 1995 and 2000. A citywide referendum on the airport passed by a 2-to-1 margin.

That's not the end of the story. City fathers now have to win the cooperation of the airlines: They are expected to bear, over time, two-thirds of the project's capital costs. But Denver's hub carriers are United and Continental; the former is involved in a continuing takeover battle, and the latter has been struggling. Continental recently agreed to go along, but United is still holding out.

Cities lacking Denver's ample real estate may have to find more inventive solutions—such as commercializing abandoned or underutilized military air bases. These fields boast superb runways, easily able to handle the largest commercial aircraft. Neighbors accustomed to the sonic booms of jet fighters may not even notice the far quieter commercial airliners. The FAA is closely studying military airfields in New Hampshire, central Illinois, and Southern California, and has approved American's limited service to Stewart. Eventually, a dozen or more military bases could be used part time for cargo and passengers.

PLANNERS are also looking at new techniques to win over hostile neighbors. In Chicago, officials are working with local banks to help homeowners who may be forced to move if a third airport is located on the southeast side. The city may guarantee low interest rates for new mortgages or buy some homes and allow residents to stay in them for a specific period.

Oris Dunham, DFW's director, has considered diverse methods to woo opponents to his $3.5 billion expansion plans, which include the building of two new runways. Says he: "Every time I start talking about runways, they start talking about lawsuits." Airport authorities may guarantee a minimum selling price to homeowners concerned about plunging property values. Or officials may offer nearby residents 20% to 25% of their house value in exchange for an "aviation easement," permanent permission to use the airways over the property. To show that DFW produces less noise than neighbors might think it does, Dunham's people set up monitors on the streets of one town adjacent to the field. Five of the six monitors picked up normal street noise louder than that produced at DFW.

The most conservative forecasts set DFW passenger volume at 100 million annually by 2005, up from 47.6 million in 1989 and far more than the airport can handle. Actual growth could be much greater. The Dallas–Fort Worth area appears to be in the early stages of a booming economic recovery, and DFW's dominant carriers, American and Delta, are among the most expansive in the U.S.

H. Ross Perot Jr. is taking advantage of the area's airport squeeze: He is developing the privately operated Alliance Airport in Fort Worth. The idea is to attract cargo traffic by offering easy access to an adjoining complex of warehouses and hangars. Washington has chipped in $39 million for the project, and Perot plans to get most of his revenues from the sale and development of the land surrounding the airfield. American Airlines has broken ground on a $400 million engineering and maintenance center at the site.

The airport has gone forward with few hassles, mainly because as a private project the bidding and approval processes were streamlined. Says Perot, 31: "Alliance brings a purely business point of view to operating an airport, which, after all, is a business." Having caught the aviation bug, Perot has started a separate company, Pinnacle Air Services, that will seek operating contracts at airports all over the country.

PEROT is not the first to try the private management of airports. Lockheed Corp. operates a regional airport in Burbank, California, and will operate a new passenger terminal at Toronto's airport. More and more experts are considering the private operation, and even ownership, of U.S. airports as a way out of the mess. The Reason Foundation, a conservative research group in Santa Monica, California, has sketched a potentially stunning economic windfall for the public. If the 50 largest U.S. airports were sold to private corporations, their current municipal owners would reap about $23.5 billion. The newly privatized facilities would generate an estimated $400 million annually in local property tax revenues and $600 million in federal tax revenues. Who has qualms about privatization? The FAA, for one, is concerned about distributing federal funds to private enterprises.

But private owners will catch the same flak that the public airport authorities will if they try to expand. Skinner says only a concerted education effort on the importance of the air traffic system will finally win the day. "People have to realize that a certain amount of noise is necessary if we're going to have a strong economy," he says. As logical as that point is, it will not convert the homeowner who feels harassed by jumbo jets thundering over his rooftop. The best guess: Air travel will get a lot worse before it gets better. F

MAN VS. THE AIRPORT RENTAL CAR

For many travelers, like Washington bureau chief Lee Smith, airport confusion does not end once the plane has landed. Here is his report:

As with many city dwellers who don't own cars, my Big Three are not GM, Ford, and Chrysler but Hertz, Avis, and National. My garage is the airport rental car lot. Why is it that once I spend a couple of days learning to love my car, Hertz or whoever switches it with another? Rental car outfits offer such variety that every trip begins with Step-Into-A-Mystery. What the business traveler really needs is a simple, generic, easy-to-understand airport auto.

CHARLIE ARCHAMBAULT

Smith: in search of a generic, user-friendly auto

It's my first visit to Minneapolis, say, and I fly in during a midnight downpour. I wonder if the woman at the rental car counter will entrust one of her fleet to a guy who has forgotten the difference between a Corolla and a Corsica, so I listen to what the fellow in front of me asks for. My turn:

"What kind of car would you like, sir?"

"I'll take a Lemur."

"I'm sorry. All we have left is a Rhesus Supreme, but we can offer it at the same rate."

I take it.

The courtesy bus drops me in a flood of rainwater sweeping across the parking lot. Hmm, I've never been inside a Rhesus before. In an earlier epoch door handles, lights, and windshield wipers were all in the same place and radios had two knobs. In the age of elegant variation, no manufacturer would think of putting any of those devices in the same place as a competitor.

The attendant who serviced the car tuned the radio to the heavy metal station where it is stuck at thunder volume. I'd like to ask for help, but nobody is in the lot at this hour, and even if someone were there I couldn't get the window down.

I get the Rhesus moving nonetheless, past the sign WARNING! DO NOT BACK UP. SEVERE TIRE DAMAGE. So I take my throbbing rock concert on the road. The parking lights, the only ones I can locate, are doing their brave best to illuminate the way. The rain is cascading down the windshield because the handle that was wipers on my last car is the turn signal on this one. I leave it on so I can read the map by the flashing green arrow. I find my hotel, but only after doubling back through the airport—twice.

It's several days later and time to go home. I leave the hotel early so that I can buy gas and avoid the prices at the rental car lot, where they apparently fill the tanks with Chivas Regal. The only station near the airport is self-service, which I hate. My father told me never to pump gas or drink anything blue. I roll up my sleeves anyhow, but I can't find where the Rhesus manufacturer has hidden the gas tank lock release. There's no way the cashier will come out of his reinforced Plexiglas bunker to help. My plane leaves in half an hour.

Time is really tight. Was that RENTAL CAR RETURN on the sign I just passed? Why didn't the woman at the counter tell me that the return lot was in a neighboring county?

Hope there's another flight after the one I just missed.

WHERE THE CEOs WENT TO COLLEGE

A FORTUNE survey of the nation's top bosses shows that the Ivies and Big Ten schools rank high. But wait! Little Johnny or Janie may want to consider Washington & Lee. ■ *by Susan Caminiti*

MICHAEL MARSLAND

A future CEO? This woman leads the graduation procession at Yale, the university that turned out the greatest number of today's chief executives.

IF YOU WANT to become chief executive of a FORTUNE 500 company, where should you go to college? Judging by past performance, you'd better practice singing "Boola Boola" and tune up your Whiffenpoofs repertoire. Yale tops all schools in its share of alumni CEOs, with Princeton a strong second, followed by the 64 other colleges in the table at right. The big names near the top of the list are those you might expect. But when the schools' ability to graduate future CEOs is adjusted for class size (see the Power Factor column), a few lesser-known institutions outshine the giants. Relatively speaking, tiny Washington & Lee of Lexington, Virginia, has launched more alumni toward the corner office than mighty Harvard.

Earlier this year we asked 1,891 present and former CEOs of FORTUNE 500 and Service 500 companies to tell us where they went to school and what they studied. (At 109 companies the original CEO was still in charge.) We also asked where they went for their graduate degrees. Nearly 1,500 top executives replied.

The Ivy League racked up the most impressive numbers. A total of 156 CEOs graduated from these eight universities, which are considered some of the most prestigious in the nation. Among the 43 current CEOs who helped Yale earn the valedictory spot: Roberto Goizueta of Coca-Cola, Samuel Heyman of GAF, and John Akers of IBM. Princeton boasts 32 CEO alumni; Norman R. Augustine of Martin Marietta went there. Harvard is alma mater for 25, including Scott McNealy of Sun Microsystems and Colman Mockler Jr. of Gillette. The other schools of the Ivy League each turned out more than ten of today's CEOs, with the exception of the University of

FROM CAMPUS TO CORNER OFFICE: HOW THE SCHOOLS STACK UP

SCHOOL	NUMBER OF CEOs	CLASS SIZE	POWER FACTOR
Yale	43	883	4.87
Princeton	32	687	4.66
Harvard	25	1,108	2.26
Northwestern	19	996	1.91
Cornell	17	1,614	1.05
Columbia	15	966	1.55
Stanford	15	1,245	1.20
University of Michigan	13	2,764	0.47
Dartmouth	12	605	1.98
University of Illinois	11	3,911	0.28
University of Missouri	11	2,101	0.52
University of Texas	11	2,280	0.48
Purdue	10	2,077	0.48
MIT	9	779	1.16
University of Wisconsin	9	2,682	0.34
University of Pennsylvania	8	1,555	0.51
Ohio State	8	2,829	0.28
Auburn	7	1,418	0.49
Duke	7	690	1.01
University of Virginia	7	721	0.97
City College of New York	7	2,496	0.28
DePauw	6	390	1.54
University of the Holy Cross	6	407	1.47
Marquette	6	1,037	0.58
University of North Carolina	6	1,201	0.50
University of Notre Dame	6	1,096	0.55
New York University	6	3,309	0.18
University of Oregon	6	1,017	0.59
Penn State	6	2,376	0.25
University of Pittsburgh	6	1,696	0.35
University of Arkansas	5	858	0.58
Indiana University	5	1,845	0.27
Iowa State	5	1,389	0.36
Michigan State	5	2,766	0.18
North Carolina State	5	809	0.62
University of Oklahoma	5	1,663	0.30
So. Methodist University	5	826	0.61
University of South Carolina	5	717	0.70
Washington & Lee	5	175	2.86
Amherst	4	252	1.59
University of Florida	4	1,622	0.25
Georgetown	4	768	0.52
University of Georgia	4	1,355	0.30
University of Iowa	4	1,328	0.30
Lehigh	4	563	0.71
University of Maryland	4	1,656	0.24
University of Miami	4	1,601	0.25
University of Minnesota	4	4,142	0.10
Rice	4	330	1.21
Tufts	4	572	0.70
Vanderbilt	4	508	0.79
University of Washington	4	2,495	0.16
Brown	4	697	0.57
Boston University	4	2,307	0.17
University of California	3	6,080	0.05
Colgate	3	301	1.00
University of Colorado	3	N.A.	N.A.
Davidson	3	173	1.73
Georgia Institute of Tech.	3	997	0.30
Loyola (Chicago)	3	634	0.47
University of Chicago	3	447	0.67
University of Detroit	3	878	0.34
U.S. Military Academy	3	540	0.56
Wesleyan	3	174	1.72
Williams	3	237	1.27
Xavier	3	261	1.15

Sixty-six colleges graduated three or more chief executives of major American companies. The Power Factor measures the relative likelihood of your having made CEO if you graduated from a given institution. The higher the Power Factor, the greater the chance of a graduate's getting to the top.

Pennsylvania (eight) and Brown (four).

The dominance of the Ivy League is, if anything, increasing: Whereas 14% of the former CEOs surveyed hold Ivy League degrees, nearly 19% of the current CEOs do. The Big Ten schools of the Midwest also stand out. They graduated 88 current corner-office occupants. Northwestern leads the group with 19, followed by the University of Michigan with 13 and the University of Illinois with 11.

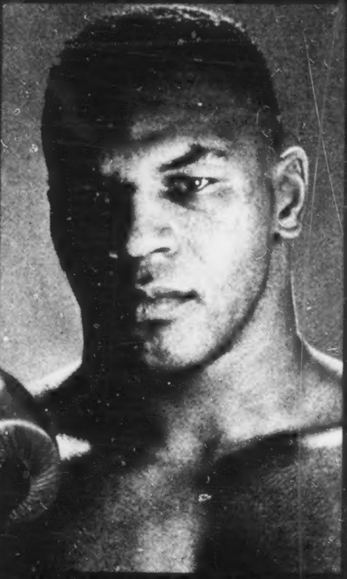
FORTUNE devised the Power Factor to gauge which colleges have been most successful on a per capita basis at schooling future corporate chiefs. Taking the average size of the graduating class for each school during the 1950s—the decade when most of today's company leaders earned their bachelor's degrees—we calculated the percentage accounted for by CEOs. By this measure Yale and Princeton kept the No. 1 and No. 2 spots, but Washington & Lee, a private liberal-arts university, vaulted past all other contenders. Another surprise: Davidson College, a North Carolina liberal-arts school that ranks seventh by Power Factor, behind No. 4 Harvard, No. 5 Dartmouth, and No. 6 Northwestern.

FORTUNE's survey turned up executives at both extremes of the educational spectrum. A. Robert Abboud of First City Bancorp of Texas, for example, holds three Harvard degrees (B.A., J.D., MBA), while Molex cofounder John H. Krehbiel Sr. attended 17 years of night school without earning a diploma. Perhaps the best-known dropout is former Apple Computer CEO Steven Jobs, who co-founded the company after saying goodbye to Reed College in Portland, Oregon, during his freshman year. But while everyone loves rags-to-riches stories in which the hero makes it to the top with only a meager education, an overwhelming 93% of today's chief executives are college graduates. The moral for students: If you want to occupy the corner office, don't show up without a college degree.

In fact, college might not be enough. To-

REPORTER ASSOCIATE *Therese Eiben*

HE'S BACK. AND HE'S NOT HAPPY.



On Saturday, June 16, Mike Tyson makes his dramatic return to the ring after his stunning defeat at the hands of James "Buster" Douglas. The former champ will face 1984 Olympic Gold Medalist Henry Tillman, who's already beaten him twice in amateur competition.

Also on the card, George Foreman continues his amazing comeback as he squares off against top contender Adilson Rodrigues.

It's sure to be a historic night, and it's only on HBO.

Live Saturday, June 16th, 10pm ET/7pm PT.

HBO
SIMPLY THE BEST

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GRADUATE SCHOOL	NUMBER OF CEOs	MBA	LL.B./J.D.	OTHER
Harvard	93	75	18	
Columbia	23	7	4	12
Stanford	19	16	2	1
University of Chicago	15	11		4
University of Pennsylvania	14	14		
University of Michigan	13	6	5	2
MIT	10			10
Northwestern	10	8	1	1
New York University	10	7		3
Cornell	9	3	4	2
University of Illinois	9		1	8
University of Virginia	6	1	4	1
Southern Methodist University	6		3	3
University of Texas	6			6
Princeton	6			6

Overwhelmingly, Harvard was the graduate school of choice for current CEOs. One out of every five with an advanced degree went to Harvard to get it. One out of every three with an MBA went there too.

day's chief executives, almost regardless of their industry, are an increasingly well-educated bunch. Technical businesses such as aerospace and chemicals have long attracted highly educated CEOs. But other industries are catching up. In forest products, for example, more than half the current CEOs have advanced degrees, compared with only 20% of their predecessors; in farm equipment the gap is even wider. One holdout is the textile industry, where an equal proportion of current and former CEOs—one-fourth—never finished college.

For all the leadership skills they teach, military schools are not necessarily a shortcut to jobs at the top. Only nine former and seven current CEOs came from such institutions, and the U.S. Military Academy at West Point is the only one to turn out three CEOs or more. Among its graduates: Rand Araskog, chief executive of ITT. An alumnus of the U.S. Naval Academy is Texaco's top gun, James Kinnear.

In one important respect, today's chief executives prepared for the corporate world differently from their predecessors: The number of CEOs with MBAs has nearly *tripled*. The emphasis has shifted even at the undergraduate level. Whereas most former CEOs of industrial companies majored in technical subjects such as mechanical engineering, current CEOs are more apt to have concentrated from the start on business and economics.

Thanks largely to its business school, Harvard leaves all other graduate programs in the dust (see table above). More than half of today's CEOs have a graduate degree of some kind; no fewer than 93, or one out of every five, went to Harvard to get it. Columbia University placed a distant second, with 23 CEOs.

Do such strong showings by Harvard and Yale mean that American business is likely to draw CEOs increasingly from a small handful of schools? Perhaps. But no institution is likely to influence the American business scene to the degree, say, that the University of Tokyo influences the government of Japan. The U.S. higher-education system infuses American business with variety and diverse ideas and is one of the nation's enduring competitive strengths. America's rivals know it; that's why they send so many of their sons and daughters to study in the U.S. F

A. Robert Abboud of First City Bancorp holds three Harvard degrees: B.A., J.D., and MBA.

John H. Krehbiel Sr. of Molex went to 17 years of night school without earning a degree.

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JULY

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FORTUNE

IS YOUR CAREER ON TRACK?

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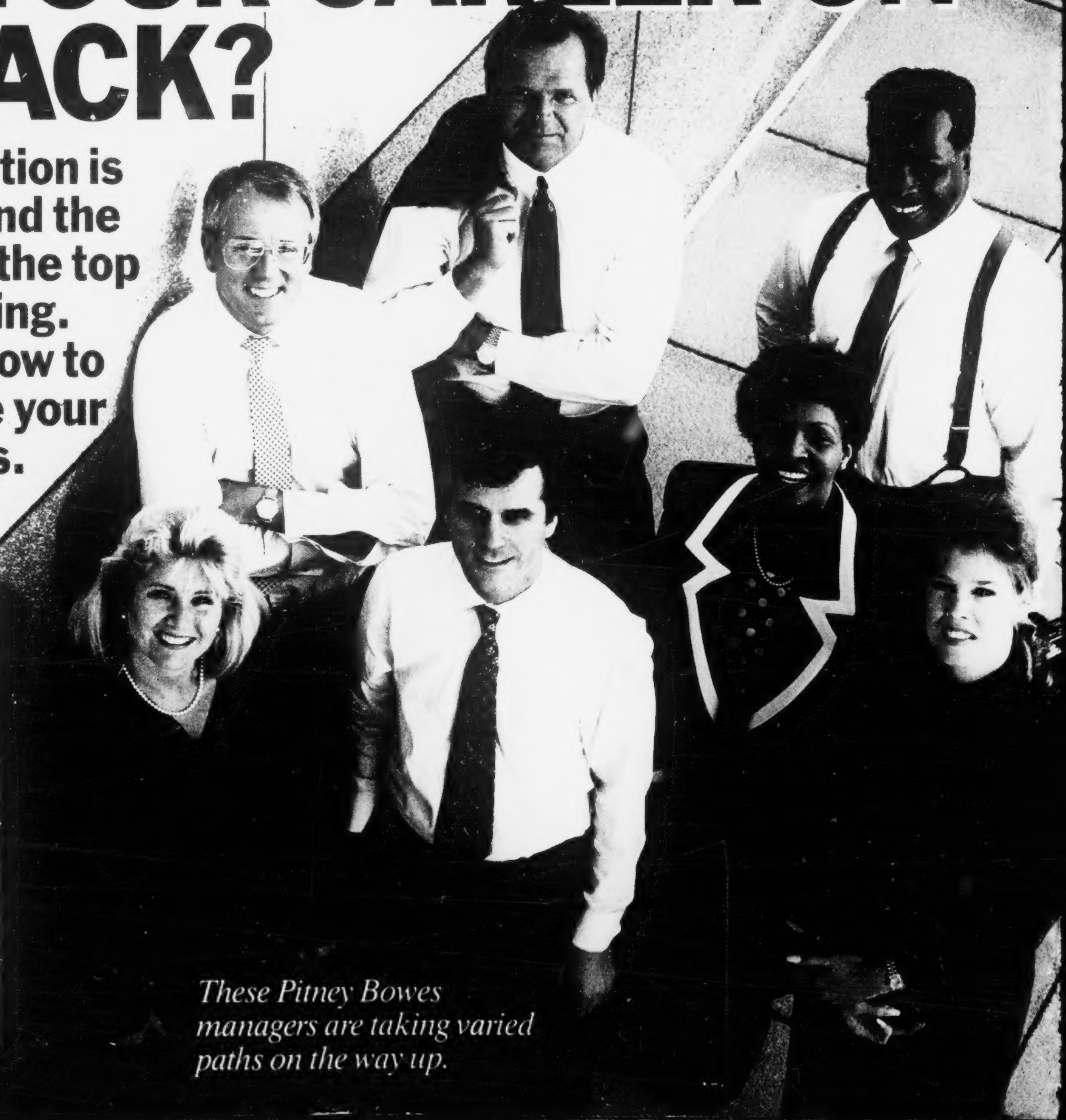

These Pitney Bowes managers are taking varied paths on the way up.

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ABOVE: Managers from Quaker Oats pose for Paul Elledge (Outline).

COVER: Some candidates for the top ranks of Pitney Bowes, photographed by John S. Abbott.

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Forget the old rules. Promotions are coming more slowly. Lateral moves are in. (You can chalk it up to that clomping herd of baby-boomers again.) But if you're trying for the very top, you still need to stick close to the P&L. *by David Kirkpatrick*

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EDITOR'S DESK

JOHN S. ABBOTT

Susan Fraker, Alex Taylor, and a threatened Mercedes 500SL

NO ONE in American journalism gets inside the auto industry better than Alex Taylor III. In a cover story last year, Taylor revealed to FORTUNE readers the tensions between the Ford family and the auto company's top managers. More recently he disclosed hard figures showing that General Motors was losing thousands of dollars per car on some of its newest lines. Beginning on page 58 of this issue, he reports on the latest threat to U.S. auto companies: the Japanese invasion of the luxury car market. Taylor says, "German and American makers will get hit right where they are most profitable."

He was just finishing this article when another story broke on Taylor's beat. Gerald Greenwald, 54, long touted as Lee Iacocca's probable successor, quit Chrysler to lead an employee buyout of United Airlines. Taylor, who first met Greenwald nearly a decade ago, had interviewed him in April and sensed that changes were under way at Chrysler. With Kenneth Labich, our airline expert, Taylor promptly revisited Greenwald to explore his motives for changing jobs and where this leaves two famous corporations that are now at crucial turning points.

"I've learned a lot about cars from Alex," says Susan Fraker, who has edited nearly a dozen of his stories. "I encourage him to seek the human drama in the business—and there's much more of that than you might expect." You'll find plenty in the articles that begin on page 53.

■

With deep sorrow we report that Ethan Hoffman, 40, a superb free-lance photographer, was killed last month while on assignment for us covering a story on indoor air pollution (page 86). He fell through a skylight at a school in Newark, New Jersey. Hoffman was, frankly, a favorite of our photo department, for his enormous personal warmth, his dedication to photojournalism, and his extraordinary talent. "The way his pictures were composed really told the story," says picture editor Michele McNally. "He always made you aware of the mind behind the camera." He shot four FORTUNE covers and worked on some 30 articles, producing pictures that ranged from a hilarious view of Sony's chairman in a bathtub to a ghostly, menacing photo of a nuclear plant swathed in fog. We will miss him greatly.

Ethan Hoffman at a Shinto shrine in 1986

EXECUTIVE EDITOR

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IS YOUR CAREER ON TRACK?

Forget the old rules. Promotions are coming more slowly. Lateral moves are in. But if you're trying for the very top, you still need to stick close to the P&L.

■ *by David Kirkpatrick*

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GAUGING your career progress has always been more art than science, but what on earth are you supposed to make of the signals you're getting now? You haven't been promoted in quite a while, but then neither have many of your peers—at least not *really* promoted, though some have been shuffled into completely new areas. Out in the job market there's that clomping herd of baby-boomers behind you, or around you, or ahead of you. And as you fight your way up the corporate slope, you start to wonder if it's worth the effort. Maybe you should think about quitting, about becoming an entrepreneur like some of your former colleagues.

If you're confused, take heart. You are not alone. Figuring out where your career stands has never been harder. Says David Rhodes, 38, of the consulting firm Towers Perrin: "The rules are changing, but we don't know what they are yet." Palo Alto consultant Paul Leinberger, 42, echoes the thought: "What it means to be on the fast track today is quite unclear." And yet, from all the confusion, from the tumult of restructuring, globalization, mommy tracks, empowerment, and work teams, new wisdom is emerging to enlighten today's aspiring executives on what's really happening with their careers.

The most striking change in the rules of career progress: You may go years between promotions and still be doing just fine. Many managers are sitting in jobs longer regardless of their age, talents, or skills. Explains Rhodes: "When companies flatten organizations, that limits the number of rungs on the ladder, which lengthens the time between promotions." Susan Doten, 31, is director of marketing in Quaker Oats' pet food division, and she has moved quickly through six jobs in nine years. But the managerial pyramid has flattened so markedly that, she says, "I will hang out at this level for a lot longer than I hung out at the lower levels. There are about 13 marketing directors in U.S. grocery products, then only four vice presidents of marketing at the next level." Consultant Rhodes predicts that by 2000 the typical large corporation will have half the management levels and one-third the managers that it has today.

Promotions are slowing for another reason. Many companies that once moved the best and brightest on a fast track to a new job every 12 to 18 months are wondering if that isn't *too* fast. Says Blair Sheppard, 37, director of the human resource management research center at Duke's Fuqua business school: "American firms after restructuring are much closer to meritocracies than they used to be." And that means they want people to stay in place longer so it's clearer whether they succeeded or failed. David Hogberg, 37, a pet food marketing manager at Quaker, encountered this phenomenon early. In 1982 he was working his way up the ladder in the company's manufacturing operations, getting promoted roughly every year. Then he became manager of manufacturing for Kibbles 'n Bits dog food, and his boss decided to keep him there three years. He looks back: "It seemed like an eternity, but this was a big job, with 70 people working for me. I trusted that in the long term it wouldn't be a career setback."

IT WASN'T, and he thinks no other path would have taught him what he learned: "I got to see the effects of changes I made and work through their implications. It helped me learn to approach every job as a long-term opportunity, to stand back and ask what changes we need to make in this whole picture, even if it has been done one way for the last 15 years."

If you can't move up right away, you can sometimes move across, and this may be a smart idea. As Doten of Quaker Oats puts it, "I may eventually have to move to another area to grow myself." Growing yourself makes sense because the future corporate honcho will be a generalist—not a production or finance or marketing person, but a people person, more a leader than a master of any one discipline. Says recruiter Henry de Montebello, 44, of executive search firm Russell Reynolds Associates: "In the future everybody will have strategic alliances with everybody else, and the executives who thrive will be well-rounded. You can't be a specialist at senior levels anymore."

CLIMBING THE LADDER, THEN AND NOW

Organization Man	Today's Manager
■ **Every career move was supposed to be upward.**	■ **Lateral moves are becoming routine and even desirable.**
■ **Promotions came within two years.**	■ **Jobs last longer. Responsibilities evolve with no title change.**
■ **Personal feelings were secondary to corporate harmony.**	■ **It's acceptable to speak out and try to reshape the organization.**
■ **Success meant job security all the way to retirement.**	■ **Success means inner fulfillment and money.**
■ **Good pay was your age times $1,000.**	■ **A good pay package includes an equity stake or profit sharing.**
■ **The workweek was 40 hours, with evenings and weekends for family.**	■ **Work lasts until the job is done, however long it takes.**

Anne Pol, 42, of Pitney Bowes buys that message. Five years ago, after a career spent mostly in human resources, she left a senior position in that function to run a plant that makes parts for mailing machines. She considered herself a candidate for the company's highest jobs but knew she needed solid operating experience to have a reasonable shot. Then she came back to the top personnel job and a position on Pitney Bowes's 11-person corporate management committee, but only on condition she could go back to operations later. This spring she returned to the heart of the company, as vice president for manufacturing operations in the mailing systems group. Her conclusion: "It's very obvious that lateral moves are necessary if you want to progress up the corporate ladder."

Quaker's Hogberg similarly believes he has maintained his promotability to top levels only through a series of lateral moves. Af-

These Quaker Oats managers still smile despite sideways moves and less frequent promotions. Pet food marketers Susan Doten and David Hogberg flank assistant treasurer Janet Cooper.

REPORTER ASSOCIATES *Wilton Woods and Richard S. Teitelbaum*

PHOTOGRAPH BY PAUL ELLEDGE—OUTLINE

MICHELE CLIPEI

"We want a creative person who can decide and act." —***AT&T's Harold Burlingame***

ter his extended stint manufacturing Kibbles 'n Bits, he sidestepped into product development rather than vie for a plant superintendent's job. Three years later, repeating the pattern, he opted out of a senior product development post in favor of a move into marketing, as assistant brand manager for Cap'n Crunch cereal. He had to work extra hard to get promoted to his current job as manager of marketing for all "semi-moist" pet foods (such as Gaines Burger) but has no doubt his earlier experience gave him an edge. "I generally look up the ladder about two positions and ask where I would go from there," he says. "If I had become a director of product development, it would have been a dead end for me from a career standpoint. My lateral moves have been deliberate, and they worked. The only problem is that now I look about 50 instead of 37."

IF ASSESSING your accumulation of job titles is more complicated than it used to be, surely you can still get a quick read on your status by checking your salary—can't you? Not so fast. For the organization men of the Fifties and Sixties, the longstanding rule of thumb was that you were doing okay if you earned your age times $1,000. Today you can't go by such simple rules—even adjusted for inflation. For one thing, people prefer compensation in different forms than they used to. They are more likely to want a piece of the business, or profit sharing. "It's give me money or give me equity," says de Montebello. "People will take extraordinary risks in their careers for equity."

By contrast, the perks so cherished by organization men no longer carry as much weight. In typical boomer voice, a 30-year-old middle manager at a big Manhattan public relations firm says, "All those executive dining rooms and bathrooms generally just satisfy somebody's ego. I'd rather have cash in hand than spend it to take a limo from point A to point B."

In general, after accounting for inflation, rising managers today make about as much as or perhaps a bit more than they did two decades ago. But headhunter de Montebello states an opinion advanced frequently by human resources experts: "There's no formula for how much you should make. The test is, Where are your peers? If your classmates, the people you started with, are all group VPs and you're an assistant controller, there's a discrepancy. But then you may be a serious tennis player and having more fun."

Comparing your achievements with those of your peers is harder than it used to be because the number and nature of your cohorts may vary enormously, depending on your age. Managers of all vintages worry about the career impact of 78 million baby-boomers surging through the work force. But whether *you* have reason to worry depends on how old you are and with which group of baby-boomers you are competing.

Just because boomers all grew up listening to the Beatles and Rolling Stones, that doesn't mean they all sing the same song today, especially when it comes to career attitudes. After all, they were born over a 19-year period. Edith Weiner, 41, of the Manhattan trend analysis firm Weiner Edrich Brown, credibly argues that boomers should be divided into three subgroups.

The leading edge is the so-called Woodstock generation, who were roughly 18 to 23 in 1969 and are 39 to 44 today. This group pioneered emancipated styles of life in their youth, helped initiate the women's movement, and fought against—or in—the Vietnam war. When they entered the job market the economy was, aptly, booming. There were ample entry-level slots for them, and their attitude reflected a certain cockiness because they felt they had changed society. When it came time to buy a house, by today's standards it was easy to afford.

The second group, today about 33 to 38, didn't test social barriers nearly so hard. Yet they were affected enough by the freewheeling Sixties to have felt considerable confusion about career goals, and typically they didn't decide until relatively late what they wanted to do. They took their first stab at the job market during or after the recession of the mid-Seventies and began to feel a competitive squeeze for jobs and housing.

By the time the third wave of boomers, now 26 to 32, emerged from school, competition was so keen in both job and housing markets that economic success became the consuming goal in their lives. This is the tough group that helped define the word yuppie and that unashamedly sought megabucks at a tender age on Wall Street.

WHILE NO objective evidence demonstrates that these last are stealing promotions from older boomers, the first two groups are definitely hearing footsteps behind them. And they don't like it. A successful 43-year-old who runs two business units and manages 150 people at a major money center bank is leaving her job, partly, she says, because of the competitive pressure she feels from young MBAs. The woman, who started 22 years ago as a secretary to a branch manager, complains: "These 1980s graduates we call yuppies are incredibly aggressive. They will lick your shoes to get you to do something for them. And once you do they'll forget your name. These little twits are coming in and eating our lunch."

For all the pressure they feel, the early boomers still have a demographic advantage over the legions that trail them. Thanks to the birth dearth of the Depression and World War II, relatively few older managers

STEVE WINTER

"People today consider themselves to be in constant change." —***Edith Weiner***

stand in the way of boomer promotions to the high-level jobs that survive. In addition, many older executives are bailing out well before age 65, lured by entrepreneurship and fat retirement packages, or are being restructured out. Guess who will fill their positions? In some reviving industries the older generation of managers was so decimated by cutbacks in the Eighties that boomers face truly extraordinary opportunities. At companies like Bethlehem Steel, Caterpillar, and Navistar International, their careers could thrive.

YOUNGER BOOMERS who haven't yet received the promotions they feel they deserve may also benefit as their more successful comrades, who got the early promotions, move further up in the hierarchy. That's because of the birth dearth that followed the boom. Says Sylvester Schieber, 43, the optimistic director of research for the Wyatt consulting firm: "The people at the back end of the baby boom will be more likely to get these fill-in promotions. You only dead-end if you go to sleep at your desk." In short, the youngest and oldest boomers find a career advantage in being adjacent to a birth dearth. Those stuck in the middle, with masses of peers above and below them, face a tough slog the rest of their lives.

One of the most important changes in the career picture, affecting not just baby-boomers but all ages, is occurring not around today's managers but inside them. Personal fulfillment and the flexibility to do more of what one wants are becoming top-rank career goals. Says Pitney Bowes's Anne Pol: "The key issue for people today is getting satisfaction in your work and feeling that you are making a contribution." It's a feeling people have always sought. But earlier generations were more willing to suppress this desire in return for other rewards, primarily job security. For all their careerism, many baby-boomers, steeped in the heritage of the Sixties, are decidedly ambivalent about compromising personal goals in

ANDY FREEBERG

Peggy Clarkson mothers two children, manages six IBM marketers, and loves her career—for now.

"U.S. firms are closer to meritocracies than they used to be."
—Blair Sheppard

SENY NORASINGH

CRAIG BLANKENHORN

"The rules are changing, but we don't know what they are yet."
—David Rhodes

"Go get the education to increase your flexibility on the job."
—Judith Bardwick

ROCKY THIE

RISING AT PITNEY

■ Pitney Bowes is working hard to provide career paths that keep its best managers happy as they zigzag upward. The seven on our cover (and below), who range in age from 29 to 47, are among those the company believes have potential for top positions. Some have taken lateral moves and switched disciplines to broaden their experience.

Several started their careers outside business altogether. John Curtis, who runs the company's operations in Britain, studied anthropology and taught high school before going into marketing. David Rupert was a U.S. Senate staffer, a Vista volunteer, and a worker for a mental health agency before joining Pitney Bowes in 1982. Says he, sounding like many baby-boomers: "I don't have a burning desire to be CEO. It seems too far away. The most important thing is to be successful at what I'm doing today."

Upwardly mobile Pitney Bowes managers, clockwise from lower left: Lisabeth Todd, a district sales director; John Curtis, in charge of U.K. operations; Jerry Dalton, a regional VP; Ernest Jackson, a division sales VP; Charlene Malone, a sales VP; Barbara Gaither-Shockley, a treasury manager; and David Rupert, a regional VP.

JOHN S. ABBOTT

pursuit of a job somewhere up there in the corporate empyrean. Consultant Leinberger observes: "The baby-boom generation places creativity and self-expression at the center of their being. They view themselves as walking works of art." This ethos has extended to managers of all ages. As one navigates corporate America, one can almost hear the voices crying, "Don't fence me in!"

Employees often complain that when they learn more and broaden themselves, the company doesn't notice.

If independence, control, stimulation, and a feeling of satisfaction are what people increasingly crave, few profess to care about their title. Says Burke Stinson, 48, a public relations manager for AT&T: "Folks are less concerned about the trappings than if the job itself is rewarding, the company progressive, and the environment comfortable—does it nurture me as a guy or gal on the way up?"

Janet Cooper, 36, relishes her job as Quaker's assistant treasurer because she finds the changing capital markets exciting. "I could take another job and make more money," she says. "But it would be a trade-off for doing something less interesting each day." George Foyo, 43, a sales vice president for AT&T's national accounts who just returned from a four-year general management assignment in Spain, feels the same way: "I'm very strongly motivated by change and challenge. Compensation and title are less important."

This resistance to categorization also expresses itself in a sense, sometimes disquieting, of being endlessly in motion. "People today consider themselves to be in a constant state of change," says Edith Weiner. Are you married? Currently. Do you have children? Not yet. Consider the highly satisfied Peggy Clarkson, a cheery 38-year-old who, thick appointment book always at her elbow, manages a staff of six marketers for IBM in Norwalk, Connecticut. How does this 16-year Big Blue veteran and mother of two feel about her career? "Right now I'm very happy in my job," she says. "I love it. It allows me to balance career and home very well." Right now.

Managers are seeking deeper satisfaction just when many employers are less likely to give them the wider and more rewarding responsibilities that come with a promotion. Something's got to give, and it may take the form of managers bailing out, or of companies changing policies in an effort to keep them. Says a 32-year-old man who left IBM in 1988 after eight years to join a small software company: "In a big company you're always trying to avoid the brick wall. Now my status depends on how I perform. I don't care about my title. I'm looking for a challenge."

Smart companies trying to retain such people are finding ways to create more challenge and satisfaction for managers who otherwise might feel stuck. AT&T senior vice president of human resources Harold Burlingame says, "We are starting to have broader bands for people. Instead of getting a $10,000 raise and moving on, they can earn much more within a job as they grow in and grow their business." At IBM, where restructuring eliminated 6,200 of 34,000 management jobs in the U.S. between 1986 and 1989, those that remain have more autonomy, at least according to higher-ups. Says Dick Hallock, director of employee relations for IBM: "We're driving responsibility down so that within each job there's more room for growth and development. In some areas we use the slogan, Make it your business."

But companies aren't attacking the problem sufficiently. Indeed, employees often complain that when they learn more and broaden themselves, the company doesn't notice. Quaker human resources vice president Robert Montgomery, 43, says that "plateaued" managers are bailing out, and his company, like others, isn't yet doing enough to keep them.

CAREER-CONSCIOUS women face a whole additional set of considerations. No independent career expert interviewed for this article denies that a glass ceiling curtails corporate advancement for women, and most volunteer it as one of the most important factors shaping the future of today's managers. Yet a substantial number of experts also believe that women's careers may thrive in the corporate environment of the future. Neil Yeager, 37, who recently wrote *Career Map: What You Want, Getting It, and Keeping It*, says, "Women know how to network in a less politicized way. They know how to nurture relationships and empower other people. They manage groups better than men. And they have a greater appreciation of motivations other than money." Those are just the qualities companies will need in the Nineties.

MANAGERS RATE THEIR COMPANIES, THEN AND NOW

My company is above average . . .	1959	1989
. . . in advancement opportunity	57%*	40%
. . . in job security	78%*	69%
. . . as a place to work	80%	68%
. . . in job satisfaction	92%	87%

*Data are from the early 1960s.

SOURCE: OPINION RESEARCH CORP. EMPLOYEE ATTITUDE DATA BASE, PRINCETON, N.J.

WITH THE STRUGGLE up the ladder especially trying and confusing for today's managers, it's little wonder that many seem particularly interested in an ancient question: Just what, finally, is career success anyway? Judith Bardwick, 57, a La Jolla, California, consultant, insists that there are other ways to cope with nonpromotion than to feel that you've failed. "Don't sit in the corner and suck your thumb," counsels a stern Bardwick, who proffers similar advice in seminars to employees at companies like BellSouth, Kraft General Foods, and Pacific Gas & Electric. To address those feelings without quitting, she suggests, "take your ambition to another area of life. Get involved with your local school board, for example. Or go get the education to increase your flexibility on the job."

But what if you continue to track your career progress the old-fashioned way—by how close you are to the top job? After all, *someone* is going to be CEO of your company in 15 years, and many companies try to identify and cultivate the likeliest candidates early. Presuming you would like to be among them, here is what AT&T, for one, is looking for, according to Burlingame: "We want a creative person who can decide and act, who can operate a continuously learning organization where the leader and his or her people constantly try to improve. We want a sense of courage, and also someone who can motivate."

ANDY FREEBERG

IBM physicist Seiden opted out of management to focus on research. He doesn't regret the move a bit.

While corporate backwaters still exist—often in human resources, public relations, and legal, among others—even fast-trackers will occasionally find themselves spending a brief time in one. "Both line and staff jobs will be expected for the CEO of the future," says IBM's Hallock. International experience will surely be a plus as well, he says.

But staying close to profit and loss responsibility remains the most important talisman for those with their eyes on top management. Says author Yeager: "For getting to the top, the bottom line is still the bottom line." Seek such responsibility early, and try to ensure that the results you produce for the company can be measured in dollars and cents.

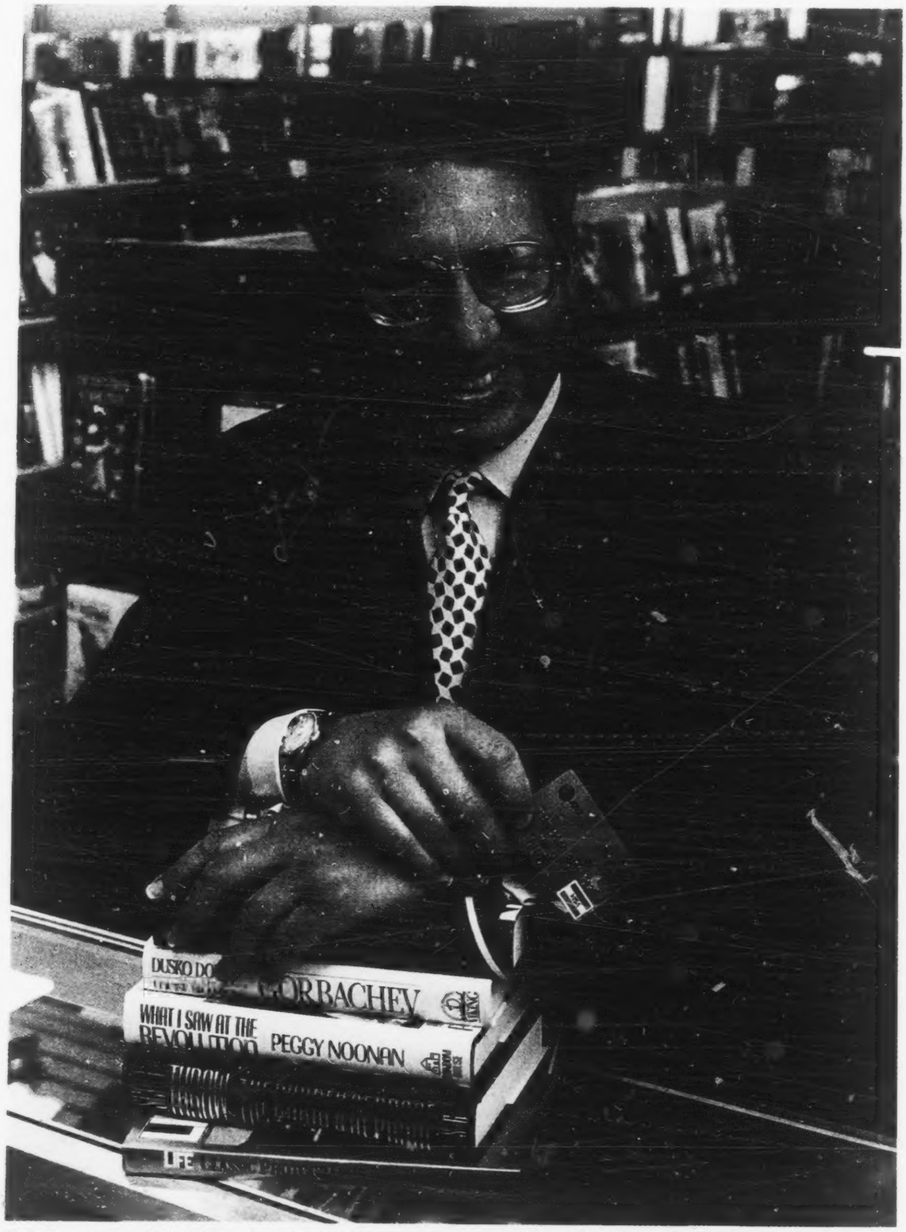
Beyond that, IBM's Hallock offers this advice: "Take the initiative in your own development. Learn new things. Read widely. Absorb as much as you can, whether or not it's related to your current job, so you can put it into context. You've got to understand the mission objectives of your employer and relate your own efforts to the company's overall goals."

All of which may or may not work. Since companies generally need just one CEO every seven years or so, remember that proximity to the pinnacle is only one way to judge a career, and that there is another, which applies to the chief and everyone else. Listen to Philip Seiden, 55, an IBM physicist who voluntarily withdrew from a senior management position 15 years ago to concentrate exclusively on research into such matters as galactic structures: "If you haven't made it in society's eyes, who cares? Have you made it in your own eyes? That's what really matters. If you're happy, why do more? To satisfy your mother-in-law?" Some version of Seiden's career path will probably be replicated by increasing numbers of today's managers. With luck, so will his attitude. F

WHO'S WINNING THE CREDIT CARD WAR

You are. It's hard to find a more lucrative business than those plastic debt machines, but new players are forcing the whole industry to give consumers more for less.

■ *by Bill Saporito*



Reading the market: The no-fee AT&T Universal Card, under Paul Kahn, has shaken the competition.

IT WAS TOO GOOD TO LAST. If you are in the charge card business, you make money six ways from Sunday. If you run a bank, you might get more profits from charge cards than from all other sources combined. If you're Citibank, you made $3.6 billion just in credit card interest last year. Numbers like that attract new players—and here they come. As the Sears Discover Card grows fast, Japan Credit Bank has landed with its own card in the West, and now Big Mama, AT&T, is threatening to knock the industry silly with a card that offers gold-plated service yet charges no annual fee. The party is apparently over.

White-hot competition in the credit card business is wonderful news for consumers, as the industry pampers them with new services and incentives to use their cards everywhere and for everything, including movies and fast food. Parking lots, highway tolls, and even school lunches may be next.

It is not necessarily so wonderful for the card issuers, mainly the banks that own the Visa and MasterCard organizations, plus American Express, Sears, and the new entrants. They must ante up to provide the extras while perhaps lowering the amounts they charge. This double whammy is forcing consolidation in the business. Banks with middle-size portfolios, 500,000 or so cards, are finding the demands to be too much and are selling out to bigger players.

The intensifying competition comes as just about everybody who is creditworthy (or sometimes isn't) already has cards. "The easy growth in acquiring card members has disappeared," says Charles T. Russell, CEO of Visa. With more than 260 million cards in circulation, the average American adult sports nearly three for his purchasing pleasure. Last year charge volume grew at 20%, which in this business is considered a comedown. "It's a market share game," says Thomas R. Butler, chief of Sears Roebuck's

REPORTER ASSOCIATE *Mark D. Fefer*

PHOTOGRAPH BY SHONNA VALESKA

surprisingly successful Discover Card operation. "We entered the business with just that perspective."

So how do you build market share? One way is simply by buying the other guy's customers. Citi and its competitors are purchasing the credit card portfolios of S&Ls and other troubled financial institutions at a rapid clip. Last year Chase Manhattan spent about $2.3 billion to acquire five portfolios, including those of Bank of Boston and Meritor Savings. The frenzied buying has sent prices through the ceiling. Citibank recently paid the equivalent of $268 per account, one of the highest prices ever, for the portfolio of the struggling Bank of New England.

The other way to raise market share is to differentiate a card by hanging more services on it, lowering its price, or both. To that end, the banks latched on, with mixed results, to so-called affinity cards issued in conjunction with frequent-flier programs, sports teams, and service organizations.

It's a tricky game, and American Express plays it best. It has two kinds of cards—the well-known travel and entertainment cards (green, gold, and platinum) and a bank credit card called Optima. Last year the company raised the annual fee on the standard green card 22%, to $55, and priced its gold card at $75 (up from $65)—and heard barely a whimper from the membership, the company says. The premium platinum card remained at a nosebleed $300. "Our prestige ratings from customers are the highest they've ever been," says Edwin M. Cooperman, CEO of Amex's Travel Related Services Co., the shining star of this tarnished company. But Amex is hardly sanguine about it. The company is pouring more than $100 million into revamping its business to get to what Amex officials call the next generation of service: more of everything.

In essence, Amex is making the game more costly to play. and other competitors are going to have to pay up or get out. Over the past five years Amex has introduced services at the rate of about one a year. The company in 1986 introduced Buyer's Assurance, a plan to extend warranties up to an additional year. It added car rental collision insurance in 1987, insured the people and things inside the car in 1988, and offered medical monitoring and evacuation services last year. In some cases, such as rental car insurance, the company first offered services to gold- and platinum-card members and then pushed them down to green-card holders when the competition matched them.

One reason AT&T so frightens the card industry is that it is attacking strongly on both price and service. Price, or lack of it, is the company's entry strategy. Credit card issuers

HOW THE CARDS STACK UP

Below is a list of selected features included with membership. Gold card offers the standard features plus extras.

	Standard			Gold		
CARD ISSUER	**ANNUAL FEE**	**% RATE**	**FEATURES**	**ANNUAL FEE**	**% RATE**	**ADDED FEATURES**
AT&T	$0	Prime +8.9%	90-day purchase insurance against loss, theft, damage, etc.; warranties doubled up to a year; $100,000 travel accident insurance; rental car insurance; 10% off AT&T long-distance calling card rates	$0	Prime +8.9%	$250,000 travel accident insurance; Visa Emergency Assistance, which provides medical monitoring and referral, arranges emergency transport, and advances funds for treatment
CHASE MANHATTAN	$20	19.8%	90-day purchase insurance; warranties doubled up to a year; $250,000 travel accident insurance; rental car insurance	$50	16.5%	Credit card registration; $350,000 travel accident insurance; either Visa Emergency Assistance or MasterAssist travel emergency service, which arranges and pays for medically necessary travel and treatment
CITIBANK	$20	19.8%	90-day purchase insurance; warranties doubled up to a year; $100,000 travel accident insurance; discounts on Hertz car rentals	$50	16.8%	$350,000 travel accident insurance; credit card registration; CitiAssist travel emergency service, which advances funds for medical and legal help, arranges and pays for medically necessary travel
FIRST CHICAGO	$20	Prime +9.9%	$100,000 travel accident insurance; guaranteed hotel reservations	$20	Prime +9.9%	90-day purchase insurance; warranties doubled up to a year; $250,000 travel accident insurance; rental car insurance; MasterAssist or Visa Emergency Assistance
AMERICAN EXPRESS	$55	None	90-day purchase insurance; warranties doubled up to a year; $100,000 travel accident insurance; guaranteed hotel reservations; rental car insurance; cash advances and referrals for medical and legal aid	$75	None	Year-end summary of charges; personal insurance covering car renters; seating for cultural events
DISCOVER	$0	19.8%	$500,000 flight insurance; 24-hour tow truck referral service; cashback bonus of up to 1% of amount charged			Gold card not available; "Private Issue" card being tested

earn money three ways: fees charged to customers, interest from outstanding credit balances, and the "discount" charge they assess merchants on each purchase. This handy operation produces gross profit margins before taxes in the 50% range—nice work if you can get it. AT&T, like Sears, is simply willing to earn less. Paul G. Kahn, president of AT&T Universal Card Services, says what the industry doesn't want to hear: "There's room in this business to give something back to the customers." Although lots of banks offer no-fee Visa and MasterCards, AT&T is the first mass-marketer to do it and the only one with the swag to fund a national ad campaign.

THE BANKS BETTING BIGGEST ON CREDIT CARDS

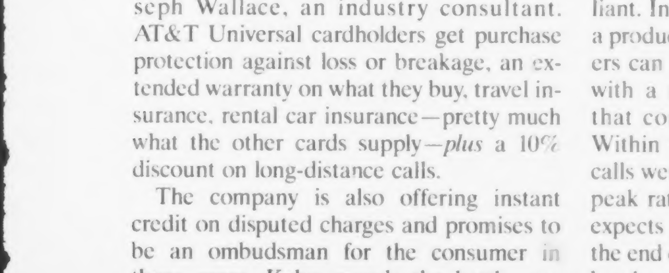
BANK	CREDIT CARD RECEIVABLES (in billions)	1989 NET CHARGE-OFFS TOTAL (in millions)	1989 NET CHARGE-OFFS AS % OF RECEIVABLES	NUMBER OF ACCOUNTS (in millions)
CITICORP	$23.0	$1,000	4.3%	22.0
GREENWOOD TRUST (Discover)	$8.5	$182[1]	2.1%	18.3[2]
CHASE MANHATTAN	$7.6	$208	2.7%	9.0
FIRST CHICAGO	$6.4	$151	2.4%	6.2
BANKAMERICA	$6.0	$148	2.5%	6.5
CENTURION (American Express)	$5.9[3]	$278[1]	4.7%	6.1[2]
MBNA	$5.5	$20	0.4%	4.5
BANK OF NEW YORK	$3.3	$86	2.6%	2.5
BANC ONE	$3.2	$68	2.1%	4.0
MANUFACTURERS HANOVER	$2.8	$108	3.8%	2.4

[1] Source: Credit Card Management. [2] Estimate. [3] Includes only receivables for Optima and other lines of credit.

IN ADDITION to taking less, AT&T's card masters are willing to offer consumers as much as or more than the competition, even the high-priced gold cards offered by Visa, MasterCard, and Amex, which originated the golden idea. (In fact, AT&T first approached Amex with a proposal for a joint card. "Wrong number," said Amex.) "They are shooting a hole right through the gold-card upgrade," says Joseph Wallace, an industry consultant. AT&T Universal cardholders get purchase protection against loss or breakage, an extended warranty on what they buy, travel insurance, rental car insurance—pretty much what the other cards supply—*plus* a 10% discount on long-distance calls.

The company is also offering instant credit on disputed charges and promises to be an ombudsman for the consumer in those cases. Kahn sounds the battle cry: "We are raising the bar on service quality. We are doing everything faster than the others, handling transactions on the phone rather than in writing, taking the customer's side in disputes, and not requiring a lot of bureaucracy. We are providing one phone number to call for everything, not a dozen like our competitors."

AT&T's initial execution has been brilliant. In one move the company has offered a product with a distinct name that consumers can remember, AT&T Universal, along with a marketing strategy—free *for life*—that consumers are finding irresistible. Within days of the card's announcement, calls were pouring into AT&T's offices at a peak rate of 15,000 an hour. The company expects to be among the top-ten issuers by the end of the year, meaning that AT&T will hand out more than three million cards.


MICHAEL L. ABRAMSON

The Discover Card's Thomas Butler: "It's a market share game."

Creating a superior service organization is a monstrous challenge, but AT&T brings some built-in advantages. It has access to the credit histories of 70 million AT&T long-distance customers. By qualifying these potential credit customers in advance, the company responds quickly to inquiries and lowers its vulnerability to bad credit risks. The heart of the service system is a phone information network. Custom workstations allow service representatives to flip among four computer systems, one of which can pull up images of application and transaction documents. By year-end a computer will call up a customer's account the moment he phones.

With AT&T and Amex adding service, while AT&T also lowers the price, pressure on the banks is growing. The top-ten banks (including those run by Amex and Sears) control more than 50% of the bank card market. "You see the banks having to compete in the one area they can least afford to compete in—price," says Cooperman of Amex. With an average interest rate on outstanding balances of about 19%, credit card portfolios represent a lone rose amid a thicket of thorns for big banks. Not only did Citibank's credit card operation ring up that huge $3.6 billion in interest last year, but it also collected $500 million in card fees. According to the *Nilson Report*, a leading industry newsletter, about 70% of Citi's and Chase Manhattan's net profits come from credit cards. Another top-ten issuer, MBNA, formerly Maryland Bank N.A., creams more than 50% of its earnings from credit cards. As consultant Joseph Wallace points out, "The banks are high-priced competitors selling a branded commodity. AT&T has changed all that. Its entry is devastating to the banks."

SO FAR the big banks' only response has come through lawyers. Citicorp, MBNA, Chase Manhattan, and BankAmerica have filed petitions with the Federal Communications Commission and the Federal Reserve Board that question the legal standing of AT&T's banking partner, Universal Bank, a subsidiary of Synovus Financial Corp. AT&T says the allegations have no merit. But where it really counts—at the point of purchase—the banks have not counterattacked.

As for Visa and MasterCard, the umbrella organizations that the banks support, their main job in this battle is marketing—differentiating themselves in a more crowded industry. They are trying hardest to build a fence between themselves. But after years

BLAKE LITTLE

Card issuers' newest targets are fast-payment settings—theaters, tollbooths, fast-food outlets like this one in Phoenix.

of me-too marketing, consumers perceive little difference between the cards, leaving the two companies a tough communication task.

MasterCard, the smaller of the associations with 86 million cards, is trying to position the card as the best for mainstream America with its "Master the Moment" campaign. In doing so, MasterCard is downplaying the extravagantly high-living themes of Visa and Amex that typically picture card members casually dropping in on spas in the Swiss Alps as if they were Holiday Inns in Duluth.

Visa, with 120 million cardholders, is ticketed for Fantasy Island, in direct competition with American Express. Ads tout the exotic spots and tony shops that accept Visa but not American Express, a not so subtle way of telling consumers that Visa is accepted in more locations than Amex.

AT&T's roaring takeoff has drowned out the noise being made by the Discover Card, introduced by Sears' Dean Witter subsidiary in 1986. With 34 million cards in circulation, Discover claims 6% of the market and produced $80 million in earnings for the beleaguered company last year. The card is now accepted in more than a million U.S. locations. The Discover attraction? Solid value: no fee and a rebate to the customer up to 1% of every dollar charged. Although the rebate is a bit of a come-on—a $1,000 balance nets a consumer $2.50—the public clearly appreciates getting *something* for nothing.

Like AT&T, Discover's advantage going in was a list of creditworthy customers—70 million Sears charge-card holders—plus an existing credit card operation infrastructure at Sears. Discover's cost of acquiring a new cardholder was and is about $6 a pop, while for the rest of the industry it is $25 to $80 and rising. "People would kill to have our acquisition costs," says Butler. But other

MINIMUM
INVESTMENT.

COMPARE THESE FEATURES	**Mazda 929S**	Acura Legend LS	Lincoln Continental
Engine (size/type)	**3.0 liter/V6**	2.7 liter/V6	3.8 liter/V6
Horsepower (SAE net @ rpm)	**190**	160	140
4-speed automatic transmission	•	optional	•
Drivetrain	**rear-wheel**	front-wheel	front-wheel
Anti-lock Brake System (ABS)	•	•	•
Automatic climate control	•	•	•
AM/FM/cassette stereo system	•	•	•
Basic warranty (months/miles)	**36/50,000**	36/36,000	12/12,000
EPA interior/cargo room (cu. ft.)	**96/15**	95/14	104/19

• standard

For just $385* per month, the Mazda 929S lease plan yields significant dividends. You'll enjoy the responsive 190-hp V6, and the security of an Anti-lock Brake System (ABS). Its elegant interior is matched by the comfort of a 36-month/50,000-mile warranty.**

It's a special offer available at your nearby Mazda dealer right now. So lease the new 929S. You'll realize the returns every time you turn the key.

*Five-year closed-end lease offer. 60 equal monthly payments of $385.39. Total Payment of $23,123.40. Payments based on negotiated Agreed Value of MSRP for 1990 929S ($24,800) plus transportation fee and customer capital reduction of $4,400. Final Agreed Value set by dealer. Registration fees, state and local taxes, insurance, options, license not included in Agreed Value. Lease subject to approval of Mazda American Credit at participating dealers and car availability. Mazda American Credit offer not available in Hawaii. First month's payment, refundable security deposit and $4,400 capital reduction contribution to be paid at the beginning of lease, plus applicable taxes, registration and title fees

companies would rather not have Discover's portfolio, since Discover cardholders tend to rack up fewer bucks on their plastic. Butler says it's just a matter of time before Discover holders show the same profile as Visa and MasterCard holders.

WITH 17% of the bank card business, Citibank has the most to lose from the threats posed by AT&T and Discover, and the company is busily trying to market its way into customers' hearts. Since 1987 the company's advertising has beat the drum of "Not just MasterCard . . . *Citibank* MasterCard." Like AT&T and Amex, Citi believes its service will keep customers from deserting. Says James L. Bailey, a Citi group executive: "The credit card customer is more service sensitive than price sensitive." Bailey openly wonders whether AT&T's price strategy will buy it a low-rent customer, one less likely to maintain an account balance that earns interest fees.

The backbone of Citi's 34% compound annual growth in receivables through 1989 has been its strategy of giving a card to just about anybody who asks for one. The company is spending madly to acquire new cardholders by flooding the market with applications: Some 700 million mail solicitations went out last year. "Why do people drink Coca-Cola?" asks Bailey. "Because it's everywhere." The strategy has a cost. Citi is willing to charge off 4% of its outstanding debts, about $1 billion in 1989, as uncollectable.

With new U.S. customers getting harder to snag, much of the industry's future growth must come from getting customers to use cards in new places. Bank cards are used an average of only 2.3 times a month, a rate that hasn't changed much since 1970. Says Visa CEO Russell: "We have no penetration in fast payments—fast food, tolls, movies. There's no time for ka-chunk ka-chunk and getting approval on the phone."

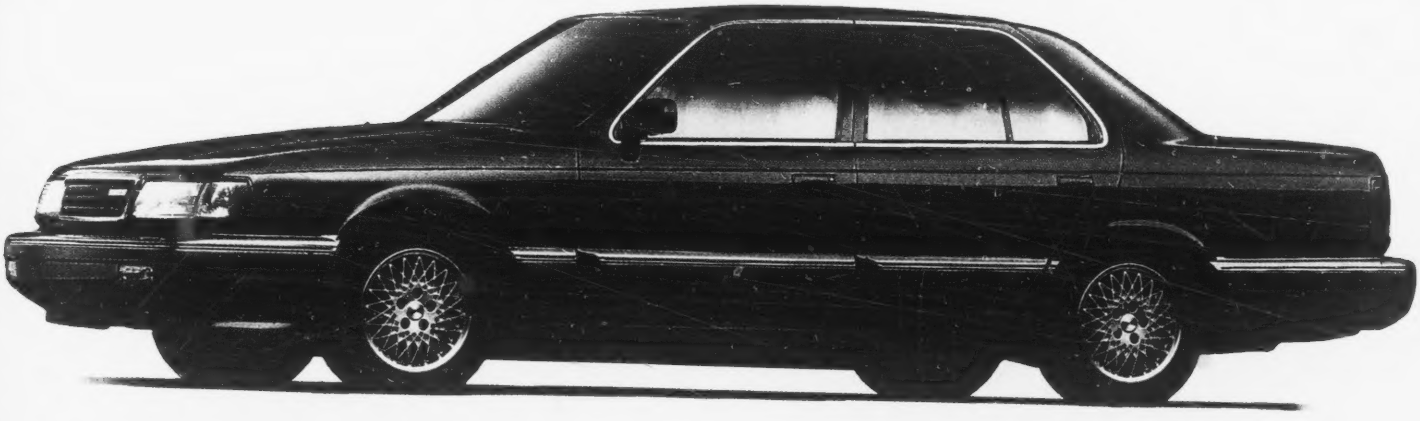
So Visa and Master are working on systems that short-circuit the standard verification procedure. At a test in a Burger King in Oregon, MasterCard successfully tried a system that gives seven-second authorization for purchases and requires no signature. That's faster than a cash transaction—and the charge customer typically spent twice as much as the cash customer. Such a quick payment system could do the same everywhere for small purchases.

Even Amex is in the game, rapidly expanding the number of retailers that accept the card. The hot rumor is that Amex desperately wants privileges at Wal-Mart. Amex says it wants to be accepted wherever consumers want it, including Wal-Mart. Discover, however, recently beat Amex to the punch.

Looking further ahead, credit card companies see magnificent opportunities around the world. They are positively drooling over Europe. Compared with the U.S., Europe is virgin territory, where most consumers wouldn't think of paying with anything but cash for big as well as small purchases. Sales there increased twice as fast as in the U.S. last year, and the number of merchants who accept cards has been increasing rapidly.

The Europeans are lucky. Americans had to put up with high fees and so-so service for years until the competition caught up. But now the cardholder is the boss, and the industry will be better off for it. F

MAXIMUM YIELD.



required under local law. Purchase option available before lease end for Initial Lease Balance less depreciation credited, or at expiration for Estimated Wholesale Value of Vehicle, plus, in either case, a purchase fee and any official fees or taxes. Lease based on a total of 65,000 miles. At lease expiration, lessee liable for return fee and per mile excess charges at 10 cents per mile. See lease agreement for full details. **See your Mazda Dealer for limited-warranty details. ©1990 Mazda Motor of America, Inc.

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A BRIGHT FUTURE FOR CONSERVATISM

American CEOs describe themselves as a pretty right-thinking group, and most of them believe the country is trending their way. One reason: the graying of the baby boom. ■ *by Susan Caminiti*

THAT TOP chief executives see themselves as conservative may not bowl you over, but you may be surprised by the extent. Almost three-quarters of those participating in the latest FORTUNE 500 CEO poll described themselves as strongly or somewhat conservative. By contrast, not one said that he was strongly liberal. Only 8% reported that they were somewhat liberal, and 18% identified themselves as centrists.

Q Overall how would you characterize your political views?

A

Strongly liberal	0%
Somewhat liberal	8%
Centrist	18%
Somewhat conservative	64%
Strongly conservative	9%
Not sure	1%

Q In general, do you think the political views of the nation as a whole are basically to the left of your own views, basically similar to your views, or basically to the right of your views?

A

To the left of your views	46%
Similar to your views	45%
To the right of your views	8%
Not sure	1%

The CEOs are most conservative on economic issues: Regarding taxes, government spending, and trade, 87% describe themselves with that label. But the group is less sure of conservative solutions when it comes to such social policies as welfare, abortion, and child care. Here, a surprising 27% of the respondents say they are somewhat liberal (1% strongly liberal); 31% report themselves to be centrists, and 40% maintain their conservatism. Which of the two political philosophies will dominate the decade? Conservatism will rise, say 57% of the CEOs polled, but 31% believe that liberalism will make a comeback.

These are among the findings of the FORTUNE poll. The opinion research firm Clark Martire & Bartolomeo conducted the survey between May 7 and May 16. Respondents were 204 CEOs of FORTUNE 500 and Service 500 companies. Do they believe that their philosophies represent the mainstream? Yes and no. Nearly half say that the political views of the nation are similar to their own. But a slightly greater number feel that the rest of the country is more liberal than they are.

Why are so many CEOs convinced that the conservative trend will continue? They point to the recent downfall of leftist governments in Eastern Europe as proof that free-market principles hold the most promise for stimulating growth. "Communism and socialism have both failed miserably," says W. W. Sprague Jr. of Savannah Foods & Industries. "The free-market system is the only survivor."

Others maintain that the economic uncertainties of the U.S. trade and budget deficits call for that conservative hallmark, fiscal restraint. Says Robert P. Hauptfuhrer of Oryx Energy, an oil production and exploration company: "Domestic and international realities will drive us in the conservative direction. To be a player on the world scene it is imperative to have your financial house in order." Jerre L. Stead of Square D is on the same wavelength: "People will be tired of a federal deficit and taxation, and will want the federal government—in fact all government—to become smaller."

Then there are those chief executives who belong to the if-it-ain't-broke-don't-fix-it school. Says Michael D. Rose, head of the Promus Cos., which owns hotels and casinos: "We saw through the Sixties and Seventies that more government is not a solution. Deregulation in the Eighties proved to be a much more effective force for economic growth." William T. Esrey of United Telecommunications is more blunt: "Conservatism will result in greater progress for the long term. It is easy to pour money into projects and heal them for the moment, and frankly that's what liberalism is—redistributing wealth for the short term. For most people it will result in a short-term gain and a long-term loss. The liberal approach is unfair to the greater body of people."

SETH RESNICK

"I'm amazed that my four children are more conservative than I am."

I. MACALLISTER BOOTH
Polaroid

A few CEOs believe that the popular political course will be charted by demographics, not politics. As Americans age, they tend to become more conservative. Some see the baby boom—that big trend-setting bulge in the population—as already pretty right wing. William O. Bourke of Reynolds Metals says they are far to the right of where he was politically at the same age. I. Mac-

REPORTER ASSOCIATE *Antony Michels*

Allister Booth of Polaroid adds: “I'm amazed that my four children are more conservative than I am. They are a lot more skeptical of the efficiency of government.”

More than 30% of the corporate top guns don't buy these arguments. Many of them expect liberalism to surge in the next few years simply because the invisible philosophic pendulum will be swinging back. Conservative thinking, they say, enjoyed a long and popular run in the Reagan years, and now it's time for a change. “We have seen about a dozen years of conservative leanings,” says E. Erwin Maddrey II of Delta Woodside Industries, a Greenville, South Carolina, textile firm. “I think now we'll see a swing the other way, not because it is right but because we don't seem to stay on middle ground.”

Q **On matters of social policy, such as welfare, abortion, and child care, how would you characterize your views?**

A

Strongly liberal	**1%**
Somewhat liberal	**27%**
Centrist	**31%**
Somewhat conservative	**34%**
Strongly conservative	**6%**
Not sure	**1%**

Q **On matters of economic policy, such as taxes, government spending, and trade, how would you characterize your views?**

A

Strongly liberal	**0%**
Somewhat liberal	**5%**
Centrist	**7%**
Somewhat conservative	**66%**
Strongly conservative	**21%**
Not sure	**1%**

John H. Croom of Columbia Gas System seems to think the pendulum needs a bit of a push: “Some of the basic problems that we have been trying to deal with—deficit spending, quality of the work force, and staying competitive in a global market—are going to require innovative and courageous decisions. That will require some change in direction.”

“Liberalism will advance because of the relationship between liberals and the environmental movement.”

JOHN R. HALL
Ashland Oil

Many CEOs who believe in resurgent liberalism see it as a backlash to the government's disappointing record on social issues. As evidence of conservatism's failures, they point to the country's rampant drug problems, its poor education system, its overpriced medical structure, and the growing numbers of homeless people. G. David Hurd of the Principal Financial Group says: “The magnitude of the problems we're facing will be so large, we'll require more government assistance than ever.” John R. Hall of Ashland Oil has a particular concern: “Liberalism will advance because of the relationship between liberals and the environmental movement.” If he's right, Ashland will have to face continued increases in antipollution regulations and perhaps more lawsuits.

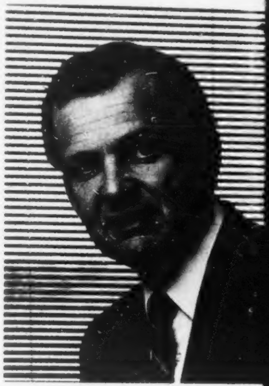
Conservative CEOs do not deny the existence of America's social problems, but they decry liberalism's methods for fixing them. Says Dr. Theodore Cooper of Upjohn: “Conservatives aren't against better environment, better education, or better transportation. They are worried about how to pay for these services.” Vista Chemical's John D. Burns puts it another way: “The liberal agenda—which requires more government funds to execute its projects—is suffering from the tremendous budget deficit we have now.”

Another group of conservative chief executives believe that so-called liberal issues such as welfare and the environment are better handled their way. “The improvement in the quality of life is dependent on proper administration and fiscal responsibility,” says PPG Industries' Vincent A. Sarni. “Conservatism is more in tune with such things.”

Some CEOs report that they are not totally in tune with either conservatism or liberalism. Stanley C. Gault of Rubbermaid calls himself a realist when it comes to social issues, particularly child care. Though his company provides services to help employees with children locate reliable child-care centers, he feels that employers should not be responsible for financing the child care. He says: “Paying for the child care of employees is discrimination against single employees and employees who choose not to have children. If you pay for child care, what's the equivalent benefit for them?”

“People will be tired of a federal deficit and taxation and will want government to become smaller.

JERRE L. STEAD
Square D



Louis P. Ferrero, of Anacomp, an Indianapolis microfiche company, represents the 9% of CEOs who believe that the Nineties will not be characterized by a single dominant political philosophy. Says he: “I think the period may end up more toward the middle, with more realism coming out of the left and more sensitivity on the part of the right.”

But then what would we do for political debate?

Q **In the Nineties which political philosophy—liberalism or conservatism—do you expect to advance, and why?**

A

Liberalism will rise	**31%**
Because political trends are cyclical	**14%**
Because social and environmental problems have not been solved	**11%**
Other	**6%**
Conservatism will rise	**57%**
Because economic uncertainty requires fiscal responsibility	**21%**
Because the conservative approach is working	**17%**
Because Communism and liberalism have failed	**16%**
Other	**3%**
Blend of both	**9%**
Other	**1%**
Don't know	**2%**

COMPETITION

THE BIG JAPANESE PUSH INTO EUROPE

They're acquiring companies, building plants, and turning up the competitive heat. American multinationals will have to run harder to keep up with them.

■ *by Richard I. Kirkland Jr.*

SIGNS OF THE TIMES: "The Japanese miracle can be repeated," declare billboards plastered around Budapest by Minolta, the camera maker. Share prices on the Frankfurt stock exchange have been levitated in part by the $1.4 billion invested by Japanese in the first quarter of this year—up from just $6.8 million a year earlier. In London, now home to some 60 Japanese banks, bond traders unwind with whisky and off-key warbling in one of the new *karaoke* sing-along bars transplanted from Tokyo's Ginza to the East End. Just down the road at Eton College, tailcoated scions of Britain's elite will soon study Japanese, courtesy of a $1.7 million grant from Sumitomo.

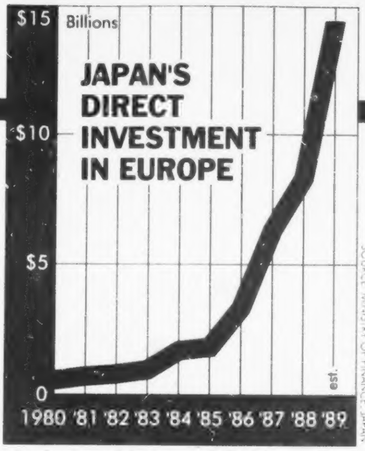
After years of treating Europe as a commercial afterthought, Japan has discovered the Old World—with a vengeance. In the latest fiscal year, which ended March 31, Japanese companies have put an estimated $14.4 billion into direct investments in the European Community. That's a 74% increase from the previous year and a sevenfold rise since the mid-1980s.

Almost half that stake was used to buy European companies. Says David Lough, publisher of *M&A Japan*, a specialist newsletter: "In 1989, for the first time, Japanese companies began to be taken seriously by European investment bankers." And by Japanese financiers as well. In the past 12 months Tokyo's major banks and brokerages either started or expanded mergers and acquisitions operations in Europe.

Japan's Europhoria is unlikely to fade soon. Says Kenichi Ohmae, managing director of McKinsey & Co. in Tokyo: "Japanese investment in Europe is going to grow in quantum leaps. In the past five years Japan has invested heavily in the U.S. That will

AFTER THE
FALL... BERLIN

At home in Europe: Sony chief Norio Ohga studied music in Berlin in the 1950s. In the 1990s he wants to boost sales on both sides of the wall.



SOURCE: MINISTRY OF FINANCE, JAPAN

continue. But for the next five years the focus will shift to Europe.”

As this investment tsunami rolls across the Continent, it will become one of the major forces reshaping Europe's economic landscape in the 1990s. Since the Japanese are determined to increase the technological sophistication as well as the size of their operations in Europe, competition is bound to intensify. That threatens not only national champions in France, Italy, and Britain, but also the outsiders with the biggest stake in Europe—U.S. multinationals. And since many European companies will emerge from the fray stronger—and perhaps in partnership with the Japanese—American companies can expect tougher battles for market share in the U.S. and the Third World.

PROTECTIONISM has played a part in drawing Japanese manufacturers into Europe. Whenever the EC has gotten porcupinish about imports, its quills have usually been aimed at Japan. But raw, back-up-the-trucks opportunity is a far more important motive. Says Jack Schmuckli, the Swiss chairman of Sony's European operations: “We think no other area in the world offers so much potential.”

Western Europe's economy is already larger than America's, and many forecasters think it will grow faster in the decade ahead. Last year, for the first time, Sony sold slightly more electronic gadgetry in Europe than it did in the U.S. Most of Sony's Japanese competitors, though, have a long way to go before their market share in Europe comes anywhere close to what it is in the U.S. or Asia. Still, as Europe dismantles its internal trade barriers as part of Project 1992, the Japanese should have an easier time catching up.

The unexpected opening of Eastern Europe is a big bonus. It offers both a potential low-cost manufacturing base and a huge market for Japan's consumer goods. Says Norio Ohga, Sony's chief executive: “The biggest problem in Eastern Europe isn't the poor state of the physical infrastructure but the need to develop an intellectual infrastructure—bankruptcy and patent laws, clear property rights, and the basic understanding of international accounting principles.” With those issues unresolved, Ohga is in no rush to put a plant east of the Elbe.

Until recently Japan's investment in Europe was concentrated in Britain, whose language and business customs are comfortingly similar to the American market the Japanese know best. Now the Japanese are starting to spread their money around. Says Robert Hormats, vice chairman of Goldman Sachs International: “What impresses me is not just the rise in the magnitude of this investment but its growing diversity.” Among the recent items in Japan's shopping bag: distilleries in Scotland, a French cognac maker, a Parisian shopping mall, a German hair care company, and a fax machine factory near Naples.

Many of the Japanese companies now investing in Europe are newcomers to global business. Japan's reputation as an export powerhouse comes from a handful of highly visible industries, like cars and electronics. The Japanese pharmaceutical industry, for example, is stunningly provincial. Sankyo, the second-biggest drugmaker, derives less than 4% of its $2 billion annual revenues from foreign sales, vs. up to 50% for its American and European competitors. To start catching up, Sankyo in January paid $130 million for 74% of Luitpold-Werk, a small, privately held West German drug company with a good distribution network in the U.S. as well as in Europe.

Last December, Japan's Leyton House bought 54% of Hugo Boss, the leading West German designer of men's clothing, for about $300 million. Four months later Renown, the biggest Japanese clothing maker, announced plans to acquire Britain's upscale Aquascutum for $125 million. Renown, which had virtually no European sales, will use Aquascutum to move into the prestige market back home as well as to expand in the U.S. and Europe. Also in April, Japan's Seibu Saison and France's Hermès—in which Nippon Life recently purchased a 1.5% stake—formed a joint venture to acquire Jean-Louis Scherrer, one of the last remaining independent couture houses in Paris.

HEIMO AGA—CONTACT

She's on her way to the Japanese school in Düsseldorf.

These ventures are aimed in part at the affluent Japanese, who are traveling to Europe in ever greater numbers. In pricey shops on Paris's Right Bank, signs announcing JAPANESE SPOKEN HERE now hang alongside those offering assistance in English. At London's leading tailors, a customer often has to push through a crowd of eager Japanese.

When Japanese carmakers increased their direct investment in the U.S., more than 350 parts suppliers followed. That trend is beginning in Britain, where Japan's Big Three have pledged to spend nearly $3 billion on new assembly plants by the late 1990s. To supply Toyota's factory aborning in the rural Midlands, Nippondenso recently paid $40 million to acquire IMI Radiators in Yorkshire. Says Raymond Douse, head of European M&A for Daiwa Securities: “For many suppliers a green-field investment takes too long. So acquisitions are an attractive alternative.”

The biggest shift in Japanese investment patterns will be toward Germany and, to a lesser extent, France. Despite its dominance in the European economy, West Germany has so far attracted only about a fifth as

East and West meet in this West German abode.

S.Schvartz
Takahashi
H.Feistel
Lautz
Kawaharada
Nachtigall
Yoshimura

HEIMO AGA—CONTACT

PHOTOGRAPH BY DILIP MEHTA—CONTACT

BARRY LEWIS–NETWORK

HEIMO AGA–CONTACT

Two kinds of shopping: Visitors to London try tweedy raincoats at Aquascutum (left), now Japanese-owned. At right, a young Düsseldorf resident checks out.

much Japanese investment as Britain. The reasons range from language difficulties and high wage costs to Germany's traditional Japanese-like prickliness toward acquisitions—whether by foreigners or locals.

That's changing fast, along with the economic and political geography of Europe. Scan the guest list in any hotel or government ministry in Prague or East Berlin and you see proof of Japan's intense interest in Eastern Europe's potential. Still, with a few exceptions, the cautious Japanese aren't crowding to put their own money into these troubled economies. Of more than 3,000 joint ventures signed by Western companies through March, Japan accounted for fewer than 40.

Instead the Japanese are seeking West German partners who know the area (see Europe). Last fall Kao, one of Japan's leading toiletries companies, acquired West Germany's Goldwell for $153 million. Now Goldwell has struck a deal with an East German distributor to market Kao's products there. To help scout other potential acquisitions for its Japanese clients, Nomura recently took a 5% stake in Matuschka Group, West Germany's biggest independent investment bank.

HEIMO AGA–CONTACT

The kids are Japanese, the language drills are in German.

West Germany's other main attraction is the technological sophistication of its industries and work force. Matsushita now makes VCRs in partnership with Bosch and electronic components in a joint venture with Siemens. And in a move drawing anxious stares from General Electric, Boeing, and others, Mitsubishi and Daimler-Benz, the Godzilla and King Kong of their respective industries, recently began talks on possible collaboration on products from cars to airplanes.

Wherever it flows in Europe, Japan's capital attracts attention. But it doesn't always trigger the negative reaction so prevalent now in the U.S. In Britain particularly, Japan's image is overwhelmingly positive. Because Japanese electronics companies have built plants there, Britain is now an exporter of videotape recorders even though it has no VCR industry of its own. Having resuscitated Britain's dying auto industry, Japanese carmakers plan to export from there too—a development that disturbs General Motors and Ford no less than Peugeot and Fiat. John Lawson of Nomura Research Institute in London predicts that Britain's current $11 billion trade deficit in cars will be halved by the mid-1990s.

So never mind that American-owned companies employ more than 530,000 Britons to Japan Inc.'s 30,000, or that there are more French and German companies than Japanese in the part of southeast Wales now known as Nippon Valley. When polltakers for Market Opinion Research International last summer asked the citizens of Luton, home of a big GM plant, if they'd be better off with a different owner, 60% knew what they'd prefer—a Japanese company.

Frankfurter Allgemeine

HEIMO AGA–CONTACT

A manager keeps current in his new hometown.

On the Continent, however, particularly in France and Italy, an undercurrent of anxiety lingers. Last year Asahi Breweries bought the three-star Lucas-Carton restaurant in Paris. Recalls co-owner Eventhia Senderens: "The French press acted as if people would now eat with chopsticks at Lucas-Carton. In fact, nothing changed except that we took our capital out of the restaurant to expand in

REPORTER ASSOCIATES *Susan Moffat, Sara Hammes*

other areas of the food business." When Japanese Prime Minister Toshiki Kaifu paid a state visit to France last January, European Affairs Minister Edith Cresson described Japan as "an enemy" with "an absolute desire to conquer the world."

More common, though, was Italy's response to Toyota's announcement in 1989 that it would invest more than $1.2 billion in car assembly and engine plants in Britain—Japan's biggest green-field investment in Europe. The Italians, who have so far attracted less Japanese investment than has Bermuda, sent a high-level mission to Tokyo to describe their country's charms and do a little polite arm-twisting. At the same time, the Italian government began negotiations to reduce the 41 quotas the country has long imposed on Japanese goods. France, too—despite Madame Cresson's complaints—has lately put on a happier face. Admits Industry Minister Roger Faroux: "It is better to have Japanese factories than unemployment."

WHAT DESERVES closer scrutiny are the market-distorting national and regional subsidies—not unlike the tax breaks handed out by state governments in the U.S.—that are often used to lure job-creating Japanese investors to Europe. By some estimates Britain in the early 1980s spent as much as $85,000 in subsidies for every new job. Complains Philippe Geyres, head of strategic planning for SGS-Thomson, the European semiconductor giant: "This kind of thing gives our Japanese competitors an unfair advantage and requires much clearer regulation by the EC."

Rather than limit Japanese investment, the EC will likely try to redirect it—in effect, to drive it up the value-added chain from so-called screwdriver plants to the most technologically sophisticated manufacturing possible. Says John Stopford, a professor at the London Business School: "The emphasis will shift from prosecuting antidumping cases to using local-content requirements and rules of origin to get the Japanese to shift their R&D here." Typical of the new approach is a 1989 EC ruling that semiconductors must be fabricated in Europe to avoid punitive tariffs.

The predictable result has been increased European investment by Japanese semiconductor makers. Among the biggest spenders are Fujitsu, which is building a $650 million chip plant in Britain's Midlands, and Mitsubishi Electric, which is about to break ground on a similar $300 million factory near the West German town of Aachen.

BARRY LEWIS NETWORK

A bit of Japanese culture—loosely defined—has come to London. This *karaoke* bar is in the East End.

Some Japanese managers grumble that EC local-content rules will discourage further investment by making it difficult to maintain production quality. Most, though, seem resigned to living with such rules. A few, notably Sony's Norio Ohga, practically embrace them. Says Ohga: "For us, the pressure from the EC merely accelerates an evolutionary process that was already under way."

Ohga, who is fluent in English and passable in German, is especially comfortable in Europe. He studied music in Berlin in the 1950s and later toured Europe as an opera singer. The late conductor Herbert von Karajan was among his close friends.

Five years ago less than 20% of Sony's European sales reflected local production. Since then, spurred in part by the sharply stronger yen, Sony has accelerated its drive to shift manufacturing closer to its markets. The company doubled capacity at its TV factory in Wales and added plants for other products in France, West Germany, and northern Italy. Today these eight factories supply 50% of Sony's European sales. In May, Sony announced construction of a new TV factory in Barcelona capable of making 600,000 TV sets a year by 1993.

As the next stage in its drive to be what Ohga calls "a good European corporate citizen"—a phrase that falls frequently from the lips of Japanese managers—Sony is moving to expand its European-based R&D. It recently opened a second R&D

BUYING IN: SOME RECENT JAPANESE DEALS

COMPANY	TARGET	VALUE in millions
Fuji Photo Film	**Crosfield Electronics** Britain	$369
Dai-Ichi Mutual Life Insurance	**5% of Cie Financière du Groupe Victoire** France	$350
Leyton House	**54% of Hugo Boss** West Germany	$300*
Nippon Life Insurance	**4% of Banco Bilbao Vizcaya** Spain	$250
Mitsubishi	**Buitoni (U.K.)** Britain	$250*
Nippon Seiko	**United Precision Industries** Britain	$232
Idemitsu Kosan	**9.6% of Statoil** Norway	$214
Honda	**20% of Rover Group** Britain	$157
Kao	**75% of Goldwell** West Germany	$153
Fujisankei	**25% of Virgin Music Group** Britain	$150

* Estimate.

SOURCE: M&A JAPAN

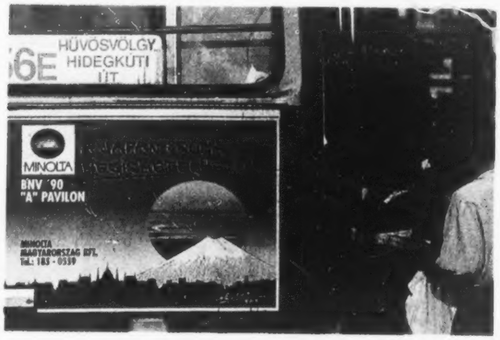
BARRY LEWIS—NETWORK

Sony research engineers collaborate in Britain.

center near Stuttgart and moved responsibility for research into digital VCRs from its Tokyo headquarters to its five-year-old European technical center west of London.

Most Japanese companies in Europe these days are making similar moves—or at least similar noises. Yamanouchi, Japan's biggest drugmaker, has built an R&D center at Oxford, as has Sharp, the electronics maker. Hitachi is doing electronics research at Cambridge and developing software at Trinity College in Dublin.

Despite their efforts in spreading around the R&D pixie dust, most Japanese companies know they still have a long way to go before they match the status of such U.S. companies as General Motors or IBM. In the ultimate sign of insider status, Big Blue even participates as a European company in EC-backed high-technology projects. But as Takao Negishi, head of the Electronic Industries Association of Japan in Europe, likes to point out, "IBM has had 70 years to achieve that. We've only had ten."



HEIMO AGA—CONTACT

A Budapest bus touts a new Japanese miracle.

One big hurdle for Japanese companies is their tendency to have an almost exclusively imported management team in Europe. Says Sony's Ohga: "We have to stop sending so many Japanese managers." Europeans head all but one of Sony's national subsidiaries and run its European headquarters in Cologne. But Sony, which also boasts two non-Japanese on its board of directors, is ever the maverick. Archrival Matsushita, which employs roughly the same number of people in Europe (10,000) and enjoys slightly higher sales ($4.5 billion), has almost no non-Japanese executives among its top management and financial staff.

Less visible but no less important is the development by Japanese companies of more integrated European management structures with at least some independent say over product planning, marketing, and capital spending. Says Gary Hamel, a professor at the London Business School and consultant to many multinationals: "In the years ahead few companies will succeed in Europe without having a very powerful regional organization." Again, only a handful of Japanese companies have taken even their first faltering steps toward this goal.

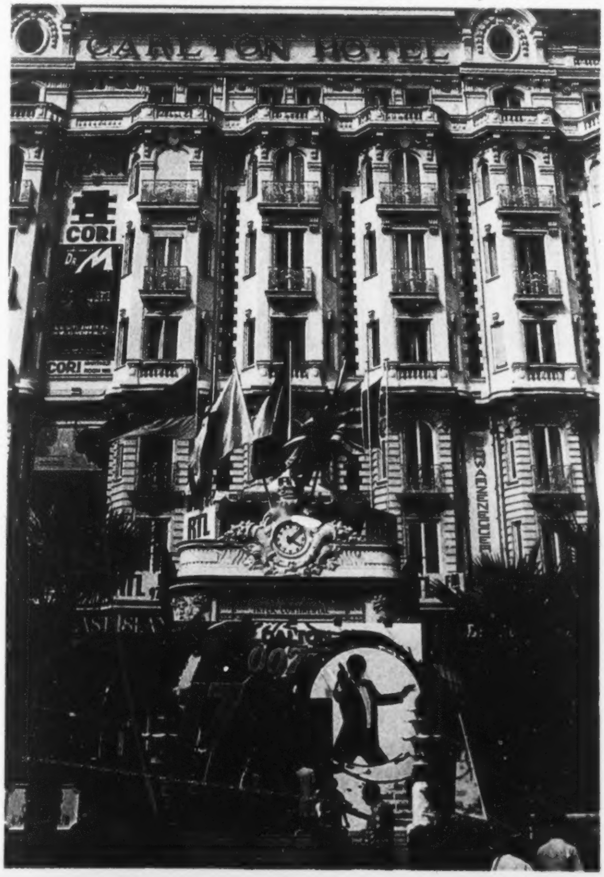
If Japanese companies cope successfully with the awkward transition from pure exporters to true multinationals—and they probably will—that should do wonders for reducing Europe's $21 billion trade deficit with Japan. By boosting employment and adding to its technological base, continued Japanese investment should also improve Europe's overall competitiveness. What it won't do is eliminate trade frictions or the pressure for protection from threatened local industries.

For some time now the European carmakers most sheltered from Japanese exports—France's Peugeot and Italy's Fiat—have been loudly demanding that any lowering of national quotas be accompanied by "voluntary" limits on Japan's EC market share. Moreover, they want those restraints to apply both to imports and to cars the Japanese make in their European plants, unlike similar limits in the U.S.

Japanese carmakers publicly denounce that proposal as unfair. At the same time they privately promise to be "prudent" about using their European production to rapidly increase market share beyond its current 10% level. As old hands at fortress building themselves, the Japanese are worried less about being forced to substitute local production for exports than about being denied reasonable access to a huge, vibrant marketplace.

EUROPE'S real challenge is to maintain that dynamism by delivering on its promise to construct the most open market possible. If direct investment is a vote by global capitalists on an economy's attractiveness, then Japan's investors have only recently begun to appreciate the Old World. Now thoughtful analysts, such as Yoshitaka Kitao, head of European M&A for Nomura/Wasserstein Perella in London, no longer dismiss the notion that Europe might someday surpass the U.S. as a magnet for Japanese capital. "But that depends very much," he says, "on the success of the 1992 project and on economic revival in the East." In the years ahead, Europe should be concerned when it starts attracting too little Japanese capital, not too much. F

In Cannes your host at the famous old Carlton is now Japanese.



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ABOVE: Peter Sibbald photographed Barry Gibbons, CEO of Burger King, with a Whopper in Miami.

COVER: Sibbald's camera caught Leo McKernan on a forklift at a Clark Equipment plant in Kentucky.

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"I don't want to invest in a business everyone is trying to outlaw."

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"Just when you are doing well is usually the time you fall asleep and go to the termites."

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"We had no hope at all before the students turned up."

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"If it had been a truthful thing, it would have been a really fine thing. But it wasn't, and, hell, that's all."

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"We have the right to fail, but let's fail only once in a row."

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"The guys logging really long hours aren't seen as heroes anymore. They're seen as turkeys."

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SHONNA VALESKA

Forecasters, from lower left: Brownstein, Burck, Schiff, Labate, Kuhn, Spiers, Carson, and May

THE BULLETINS are bleak. Housing starts are the lowest since the 1982 recession. Retail sales have fallen for three months straight. What better time for FORTUNE chief economist Todd May and his team to proclaim the historic news: The great economic expansion that began in November 1982 will continue right through October 1991, when it will break the all-time record set in the Sixties. "And," says May, "we see nothing to indicate that it will end then."

FORTUNE's team has been consistently on target during the growth years, even as others periodically fretted that a bust was imminent. A year ago two-thirds of the Blue Chip panel of 51 economists predicted a recession in 1989 or 1990. May and his crew never wavered from their view that the economy would keep ticking along, albeit slowly.

They began preparing for this 18-month forecast—they do one twice a year—with an intensive search for excesses, like inventory accumulation, that could trigger trouble. Senior economist Vivian Brownstein concentrated on foreign trade, government spending, and inflation. Economist Joseph Spiers, who joined us in April after ten years at McGraw-Hill, analyzed data on housing as well as consumer and private business spending. Statistics were gathered by associate editors Lenore Schiff and Lorraine Carson while reporters John Labate and Susan Kuhn assessed what the outlook would mean to 21 major industries.

Before May keyed the data into FORTUNE's computerized model, his whole staff interviewed dozens of government and business experts. Says Charles Burck, who has edited Fortune Forecast for seven years: "This is not just an exercise in number crunching. Our forecasts reflect real-world reporting and the judgment of first-rate thinkers." To tap into the wisdom, turn to page 52.

EXECUTIVE EDITOR

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TOUGH TIMES FOR JAPAN'S BANKS

Once they seemed on the verge of taking over the world. Now the juggernaut is slowing down. Competitors can breathe easier, but borrowers should expect to pay more. ■ *by Carla Rapoport*

IF ANY single group of Japanese seemed invincible in the past few years, it was the bankers. The blue-suited legions from Tokyo roamed the world, busting into just about any financial market they wanted to. Though they sometimes seemed to have more cash than caution, they could always find more yen back home to paper over mistakes of inexperience.

Now their world is changing. They still have plenty of power: Eight of the ten biggest banks in the world are Japanese. (The other two are French.) Japan's 12 commercial banks, known as city banks, control assets worth $3.2 trillion, roughly equivalent to the total assets of the entire U.S. commercial banking industry. Japan's largest bank, Dai-Ichi Kangyo Bank (DKB), alone holds assets of about $435 billion. That outstrips the total assets of Citicorp, Chase Manhattan, and BankAmerica combined.

But a sharp climb in Japanese interest rates, an unexpected 27% drop in the value of the yen since the fall of 1988, and the collapse of the Tokyo Stock Exchange's three-year super–bull market have jolted the juggernaut. Says Sotoo Tatsumi, president of Sumitomo Bank: "Japanese banks can't keep growing at such an enormous rate anymore. We *will* slow down."

Financial deregulation at home, much of it at the insistence of Washington, has created a newly competitive market for the banks. Top managers, with their attention more firmly fixed on the business in Japan, will have less time to dabble in London and New York. That's good news for competitors around the world, though not for customers. With a squeeze on, Japanese bankers will be out to increase their profits, and borrowers will have to pay more. They've also become choosier about new loans. After lending big to Donald Trump and RJR Nabisco, they grew reluctant to help refloat Trump or to join RJR's huge refinancing.

The Japanese had a remarkable run while it lasted. They began flocking overseas in the mid-1980s, flush with the proceeds of Japan's trading surpluses. By the end of 1988 their overseas loan portfolio had tripled to more than $1.7 trillion, nearly 40% of all international lending. In the U.S., Japanese banks account for more than 12% of total lending and 25% of the California market.

But now, boosting profits has become more important than growth. Says Yoh Kurosawa, newly appointed president of the Industrial Bank of Japan (IBJ) and one of the industry's most articulate spokesmen: "Rank us by assets and we're eight of the

A shakeout in Japanese banking will leave some empty chairs, says Dai-Ichi Kangyo's Kuniji Miyazaki.

CAROLINE PARSONS

top ten in the world. But if you look at profits, none of us are even in the top ten. We are way down the list. From now on, lending growth must equal profit growth."

What's happened to big is beautiful? The bankers' change of heart certainly does not stem from any kind of liquidity crunch. The Japanese continue to save prodigiously, parking much of their money in banks. The economy remains strong, and those trade surpluses still inspire awe.

Like most Japanese companies expanding overseas, banks had been pushing for market share at the expense of profits. That strategy worked well for makers of semiconductors or the latest electronic gadgets, which could make up for losses abroad with robust profits at home. And it worked for a few years for Japanese banks, which attracted new customers by lending money at low interest. Competitors grumbled that the banks were making so-called hara-kiri loans, but borrowers understandably loved them.

Then, three years ago, the Bank for International Settlements (BIS) in Basel, Switzerland, decided that Japanese banks weren't playing fair because their reserves were so much smaller than those required by most Western central banks. Though it has no enforcement powers, the BIS set standards for all international banks and asked the Japanese to go along. Eager to be part of the global banking club, the Japanese blithely swallowed the new rules. Because of the long-running bull market and their own heady price/earnings ratios, the banks easily raised trillions of yen of new equity and kept on trucking.

"We *will* slow down," says President Sotoo Tatsumi about Sumitomo Bank's international business.

But other problems were bubbling up in the background. Responding to heavy pressure from the U.S., Japan began liberalizing its financial markets in earnest in the mid-1980s. By early this year Japanese banks were paying competitive market rates for 55% of their funds, compared with 10% five years ago, when regulation still capped nearly all the rates paid to savers. A total end to fixed interest rates on deposits is expected within two to three years.

At the same time, Japan's capital markets have been deregulated as well, giving Japanese companies some alternatives to borrowing from banks. Powerful banks like IBJ, which had helped create Tokyo's industrial powerhouses in the first place, suddenly found those same customers raising billions through convertible bonds or commercial paper.

The banks could have shrugged off these pressures if not for the combined hit of higher interest rates, the falling yen, and the stock market collapse. The interest rate hike quickly cranked up the newly deregulated cost of funds, which caused bond prices to drop sharply, which in turn inflicted huge losses on the bank's bond portfolios.

The drop in the yen pushed up the value of all those overseas loans, requiring a deeper pool of reserves to satisfy the BIS standards. And even though the Tokyo stock market regained more than a third of its losses by mid-June, bankers agree that the days of raising buckets of cheap equity to fuel growth are over. By the end of March four banks had slipped below the BIS capital adequacy ratio that the Japanese agreed to meet by the end of 1992. The only way out for them is to reduce lending growth, boost profits (which flow into reserves), or both.

In a top-floor office of the Sanwa Bank skyscraper in central Tokyo, Teruyoshi Yasufuku, deputy president, slaps his chair in an unbankerly manner as he drives home

WHERE PROFITS ARE GETTING SQUEEZED

Fiscal years ended March 31; in millions of dollars

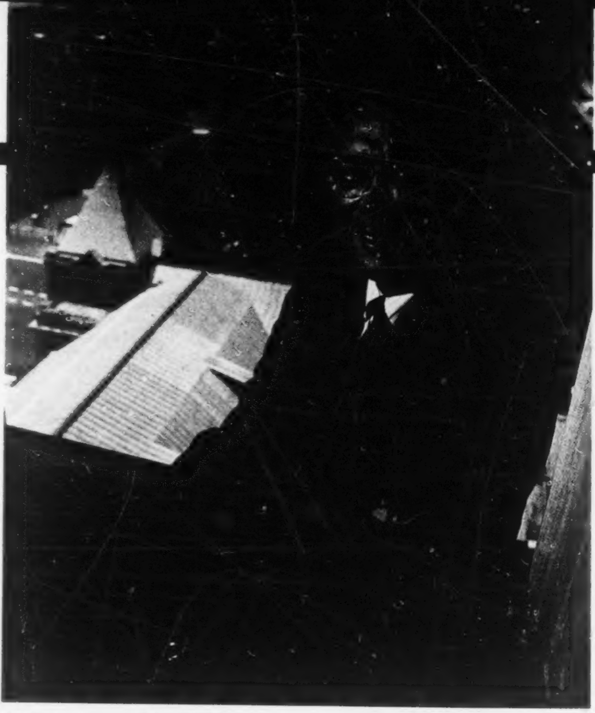
BANKS	TOTAL ASSETS 1990	TOTAL ASSETS % change from 1989	NET INCOME 1990	NET INCOME % change from 1989
Dai-Ichi Kangyo	$435,718.4	5.4%	$1,014.9	−34.6%
Sumitomo	$407,105.5	—	$1,290.0	−20.3%
Fuji	$403,725.3	1.5%	$1,030.0	−27.5%
Sanwa	$387,452.2	3.8%	$1,136.7	−10.1%
Mitsubishi	$354,362.0	−7.0%	$998.3	−26.2%
Industrial Bank of Japan	$285,158.8	−2.4%	$594.6	−8.8%
Tokai	$243,826.7	2.1%	$378.2	−24.1%
Bank of Tokyo	$228,443.0	2.7%	$550.2	16.3%

PHOTOGRAPHS BY TAKESHI YUZAWA

his point: "Up to now we could take these BIS standards lightly. Now they are like a silk stocking strangling us. Unless we are really profitable, we can't grow. So this ridiculous competition has to stop."

Some Japan watchers, who have heard similar vows of self-restraint before, are skeptical. Could the bankers simply have lost interest in the U.S. because of the savings and loan debacle, soft real estate markets, and the collapse of the LBO business? Is such talk a way of wheedling Congress out of passing legislation that would control expansion by Japanese banks in the U.S.? And what about inertia? Says Sanwa Bank's Yasufuku: "There is always a lingering mentality of those fighting at the front. You can't change a soldier overnight."

The word does seem to be getting to the trenches. Masahiro Nagayasu, a vice president at Fuji Bank in New York City, says that his branch will hold lending at its current level for the next two to three years at least, on orders from Tokyo. DKB is currently asking branches to restrain growth in lending to just 2% to 3% a year, less than half of last year's rate. IBJ's Kurosawa says he will cut the increase of the bank's overseas loans in half, to about 8%.



At IBJ, new president Yoh Kurosawa now seeks higher profits.

Overall, Japanese bankers think that their 20% to 30% annual growth rate of the past five years will drop to around 10% and stay at that level for a while. Says Koji Takahashi, deputy president of DKB: "We have a quarter of California's loans. That's enough."

Two developments back home, the dramatic rise in consumer borrowing—it's now the fastest-growing part of the business—and the gradual but certain drift toward abolition of Article 65, Japan's version of Glass-Steagall, which keeps banks and securities firms out of each other's business, mean that running in a pack chasing growth for its own sake no longer makes much sense. Japan's huge banks will be forced to choose differing strategies, based on their individual strengths. Some, such as Kyowa, will become primarily domestic banks, sticking to retail banking. Others, such as the influential long-term-credit banks, which lend mostly to companies, not individuals, will move into investment banking, capitalizing on their superior contacts with Japan's major industrial groups.

Return on assets is a new preoccupation for Japanese banks, says Bank of Tokyo's Yamaguchi.

The strongest banks, including Sumitomo, Sanwa, Fuji, and Mitsubishi, will grow both overseas and at home, in the style of Citicorp. Still others will almost certainly disappear, merging with surviving banks. Says Kuniji Miyazaki, president of DKB: "Some banks won't be able to keep pace with the changes. This means more mergers and collaborations to ensure survival. In the next ten years you'll see fewer Japanese banks."

THE GRADUAL breakdown of Article 65 does not surprise many Japanese, but the rise in consumer borrowing does. An article in an influential Japanese business magazine about Fuji Bank's new, so-called *jukatsu* loans (the word translates to "brighten your lifestyle") was headlined FUJI BANK SPREADS APHRODISIACS. Indeed, consumer borrowing has long been considered a contradiction in terms in savings-mad Japan, about as odd as ordering a sushi sandwich. That's changing, partly because young people are less interested in suppressing acquisitive urges than their parents were and partly because banks are pushing credit so hard.

Sumitomo's Tatsumi, flashing diamond and gold cuff links in the shape of the bank's logo, couldn't be more pleased with the trend. Says he: "Japanese lifestyles and values are becoming more Westernized. People

Reporter Associate *Sara Hammes*

are becoming more interested in enjoying their lives. This is not a bad thing for Japan." Takahiro Kagawa, deputy manager of Sanwa's personal banking division, is blunter: "We wish to help people to enjoy a higher social status. We want to encourage borrowing. It's more profitable than other lending."

CONSUMER LOANS are growing at a breathtaking pace. According to government figures, such lending by Japan's major commercial banks quadrupled in the 24 months ended March 1990 to a record $42 billion. DKB says consumer loans totaled 20% of total lending as of last March, up from 10% in 1987. Sanwa plans to reach that level by 1992. Sadami Takahashi, deputy president of Mitsubishi Bank, makes no apologies: "Japanese feel less guilty about borrowing than we did before." The bank is planning to allocate 50% of its new domestic loans in the next six months to consumer lending.

In the process, banks are finally shedding their stodgy, arrogant image. In the past 12 months they've been introducing innovative new services and loan packages. They've begun chasing loan prospects by direct mailings, telephone, and door-to-door solicitations. In the old days of total regulation, Japan's bureaucrats made sure that the bigger banks didn't offer better services than the smaller ones. Cash machines, for instance, were open only during banking hours.

Today service is so advanced that a holder of Sanwa's bank card can borrow two million yen ($13,032) more easily than making a savings account withdrawal. If you pay your bills through Sumitomo's direct-debit system, you get a reduction on credit card interest. Sumitomo has tripled the number of cardholders since it introduced the system in 1988. For its "brighten your lifestyle" loans, Fuji Bank gets homeowners' names from government records and offers to lend up to the total value of the home.

The upsurge in consumer lending in Japan is attracting young bankers who formerly would have sought an overseas assignment. A young official recently cajoled his personnel department into letting him pass up a scheduled New York tour, even though the bank had paid for his Ivy League degree in preparation for the assignment. Says he: "I'm not interested in working in New York. Three years ago I was. Now the talent is coming back to Tokyo. This is where the money is."

This newly competitive environment at home may be good for Japan's foreign competitors, but not for borrowers abroad. Mark Lerner, a managing director at Chase Manhattan in New York, points out that Japanese banks are clearly interested in charging more for loans. Says he: "They are raising the minimum sizes of deals they will work on. They are looking for more up-front fees." Adds a corporate treasurer for a major U.S. utility: "The Japanese used to be one-eighth of a point cheaper than other banks. That's not the case today."

In Tokyo, bankers waste little time turning the conversation to ROA and ALM: a bank's return on assets and its asset-liability management, which includes estimating what percentage of its loans may default. Both are relatively new considerations for the Japanese. Says Tamotsu Yamaguchi, deputy president of the Bank of Tokyo: "In the U.S. you have a column for ROA. Here we've never seen such a ranking." Seiichi Tsurumi, formerly of Tokyo's Federation of Bankers' Associations, agrees: "In a regulated environment, the best way to grow was to attract deposits. Profits were guaranteed. Today, forget it."

DKB executives in Tokyo say the spreads between their cost of capital and the interest they charge on overseas loans have to rise from the current 0.25% to 0.30% or 0.35%, an improvement that other bankers agree is necessary for their own operations. The average return on assets for Japanese banks is currently around 0.35%, compared with around 1% for U.S. and British banks. Japan's city banks privately forecast that within a year or two the average figure in that country will jump to 0.5%. The internal projections of the long-term-credit banks call for an increase to between 0.45% and 0.60% over the next few years.

Tokyo bankers concur that, for example, should the Chunnel project between Britain and France need to borrow more, its backers should plan on paying higher interest. Some project managers may find that Tokyo won't return their calls at all. In their lending to developing countries, the Japanese are waiting for government incentives in the form of tax breaks or other inducements before sending any more cash that way.

The Japanese are also expected to pull back from the huge capital markets in Europe. They arrived in force in the early 1980s, partly to escape rigid regulation back home. Now, however, their share of interbank lending in the Euromarkets, a low-margin business, is expected to decrease. The number of Japanese banks leading syndicated loans in the Euromarkets has already dropped to just four out of the top 20 in the first six months of the year. Last year they led seven of the top 20 syndicates.

For all the new emphasis on profitability, some things aren't changing. Japanese bankers cling to their self-image as pillars of Japanese society. Despite IBJ's recent launch of a private banking department aimed exclusively at Japan's new rich, Kurosawa insists that the business of making money can go only so far in Japan. Says he, with a straight face: "Toyota can make big profits, but not the banks. We have some public character. People don't like to see bankers earning big salaries in Japan."

Sanwa's Yasufuku: "You can't change a soldier overnight."

Still, the bankers insist that they want to run their businesses better. Mitsubishi's Takahashi says it best: "In my view we were rushing overseas in competition with each other. We weren't just competing on the volume of loans, but on the number of overseas employees, branches, even the number of computers. We would always think of the other Japanese bank first when making plans. Now we simply cannot afford to do that." That attitude has got to be good for the rest of the world. F

AMERICA'S 50 BIGGEST EXPORTERS

OVERSEAS SALES TAKE OFF AT LAST

Led by Boeing and the computer industry, U.S. manufacturers are starting to make big dents in global markets. They're chipping away at the trade deficit too.

■ *by Jacob Park*

OVERSEAS SHIPMENTS of America's top 50 exporters sailed past $100 billion last year for the first time since FORTUNE started keeping track a decade ago. Although the U.S. trade deficit still hovers around $115 billion, it declined in 1989 for the second year after seven straight increases and is still getting smaller. It was down about 10% in the first quarter. In February it dropped 35% from January to the lowest monthly total since 1983. Says Tony Villamil, chief economist at the U.S. Department of Commerce: "American companies are getting more serious about the global market."

Boeing, No. 1 for three years in the early 1980s, regained first place, pushing General Motors to No. 2. GM had been the top exporter for seven straight years. Increased deliveries of 747s and 767s to foreign customers gave Boeing a 40% lift in exports, despite a two-month machinists strike during the year. With worldwide airline traffic expected to double by 2005, Boeing may be No. 1 for a long time. In the past couple of weeks alone, $10 billion of planes have been ordered by Japan Air Lines, China's Civil Aviation Administration, and Korea Air Lines.

Freshly painted, these 747s are bound from Boeing's Everett, Washington, plant to foreign airlines.

Personal computer makers sold more machines abroad than at home in 1989, a first for the industry. Compaq Computer led all competitors with a 47% increase. The Houston company opened subsidiaries in Norway and Denmark and expanded its European dealer network. (In calculating total exports, FORTUNE counts both direct sales to foreign customers and intracompany transfers to non-U.S. operations.)

Sun Microsystems, one of five new companies on the list, nearly doubled export sales to $751 million because of increased demand for its workstations in Europe and Asia. With the acquisition of Apollo Computer last May, Hewlett-Packard increased its overseas business by 28%. Even IBM, which starts with an enormous export base, grew 11%.

After a two-year absence, Cooper Industries returns to the list, mainly because of its acquisition of Champion Spark Plugs and Cameron Iron Works. Strong worldwide demand for Xerox's new 5090 copiers put the company back on the list after a year away.

How important is the growing overseas market to the U.S. economy? U.S. exports rose 13% last year, to $360 billion, the second-highest increase since our list began. Exports to Japan reached $44 billion, almost double the amount four years ago. According to the Department of Commerce, the export expansion has been the leading source of GNP growth in recent years. F

PHOTOGRAPH BY HARALD SUND

RANK			PRODUCTS	EXPORT SALES		TOTAL SALES		EXPORTS AS PERCENT OF SALES	
1989	1988			$ Millions	Percent change 1988–89	$ Millions	FORTUNE 500 Rank	Percent	Rank
1	3	**BOEING** Seattle	Commercial and military aircraft	11,021.0	40.4	20,276.0	15	54.4	1
2	1	**GENERAL MOTORS** Detroit	Motor vehicles and parts	10,185.1	8.4	126,974.3	1	8.0	41
3	2	**FORD MOTOR** Dearborn, Mich.	Motor vehicles and parts	8,602.0	(2.5)	96,932.6	2	8.9	36
4	4	**GENERAL ELECTRIC** Fairfield, Conn.	Jet engines, turbines, medical systems	7,268.0	26.5	55,264.0	5	13.2	26
5	5	**INT'L BUSINESS MACHINES** Armonk, N.Y.	Computers and related equipment	5,476.0	10.6	63,438.0	4	8.6	38
6	7	**E.I. DU PONT DE NEMOURS** Wilmington, Del.	Specialty chemicals	4,844.0	15.4	35,209.0	9	13.8	25
7	6	**CHRYSLER** Highland Park, Mich.	Motor vehicles and parts	4,649.0	7.0	36,156.0	8	12.9	27
8	10	**UNITED TECHNOLOGIES** Hartford	Jet engines, helicopters, cooling equipment	3,307.4	16.1	19,765.5	17	16.7	14
9	9	**CATERPILLAR** Peoria, Ill.	Heavy machinery, engines, turbines	3,291.0	12.3	11,126.0	38	29.6	5
10	8	**MCDONNELL DOUGLAS** St. Louis	Commercial and military aircraft	2,896.0	(16.6)	14,995.0	25	19.3	10
11	11	**EASTMAN KODAK** Rochester, N.Y.	Photographic equipment and supplies	2,874.0	3.7	18,398.0	18	15.6	17
12	13	**HEWLETT-PACKARD** Palo Alto, Calif.	Computers, electronics	2,634.0	27.6	11,899.0	33	22.1	8
13	14	**UNISYS** Blue Bell, Pa.	Computers and related equipment	2,400.1	2.0	10,096.9	43	23.8	7
14	16	**MOTOROLA** Schaumburg, Ill.	Communications equipment, semiconductors	2,319.0	33.1	9,620.0	48	24.1	6
15	15	**PHILIP MORRIS** New York City	Tobacco, beverages, food products	2,288.0	22.8	39,069.0	7	5.9	46
16	12	**DIGITAL EQUIPMENT** Maynard, Mass.	Computers and related equipment	2,103.3	4.2	12,866.0	27	16.3	15
17	17	**OCCIDENTAL PETROLEUM** Los Angeles	Agricultural products, coal	1,995.0	18.5	20,068.0	16	9.9	33
18	19	**ALLIED-SIGNAL** Morristown, N.J.	Aircraft and vehicle parts, chemicals	1,692.0	15.6	12,021.0	31	14.1	23
19	20	**WEYERHAEUSER** Tacoma	Pulp, paper, logs, lumber	1,574.0	12.6	10,105.6	42	15.6	18
20	21	**UNION CARBIDE** Danbury, Conn.	Chemicals, plastics	1,561.0	12.5	8,744.0	53	17.9	12
21	18	**GENERAL DYNAMICS** St. Louis	Tanks, aircraft, missiles, gun systems	1,522.1	(4.7)	10,053.2	44	15.1	21
22	22	**RAYTHEON** Lexington, Mass.	Electronic systems, aircraft	1,340.0	2.5	8,796.1	52	15.2	20
23	23	**TEXTRON** Providence	Aerospace, consumer goods	1,210.0	7.4	7,440.1	61	16.3	16
24	26	**ARCHER DANIELS MIDLAND** Decatur, Ill.	Protein meals, vegetable oils, flour	1,208.5	11.1	8,056.5	57	15.0	22
25	25	**DOW CHEMICAL** Midland, Mich.	Chemicals, plastics, consumer products	1,157.0	4.3	17,730.0	20	6.5	44
26	24	**WESTINGHOUSE ELECTRIC** Pittsburgh	Electrical products and electronic systems	1,131.0	1.4	12,844.0	28	8.8	37
27	28	**INTERNATIONAL PAPER** Purchase, N.Y.	Pulp, paperboard, wood products	1,100.0	10.0	11,378.0	35	9.7	35
28	27	**MONSANTO** St. Louis	Herbicides, chemicals, pharmaceuticals	1,070.0	(1.2)	8,681.0	55	12.3	29
29	29	**HOECHST CELANESE** Bridgewater, N.J.	Chemicals, plastics, fibers	1,039.0	7.4	6,016.0	77	17.3	13
30	40	**MERCK** Rahway, N.J.	Drugs, specialty chemicals	1,038.6	39.3	6,698.4	70	15.5	19
31	32	**MINNESOTA MINING & MFG.** St. Paul	Industrial, electronic, and health goods	1,019.0	21.9	11,990.0	32	8.5	39
32	30	**EXXON** New York City	Petroleum, chemicals	1,019.0	8.8	86,656.0	3	1.2	50
33	31	**INTEL** Santa Clara, Calif.	Microcomputer components and systems	997.9	7.8	3,280.7	137	30.4	4
34	43	**ALUMINUM CO. OF AMERICA** Pittsburgh	Aluminum products	935.0	20.8	11,161.5	37	8.4	40
35	41	**COMPAQ COMPUTER** Houston	Computers and related equipment	896.1	46.5	2,876.1	157	31.2	3
36	39	**ROCKWELL INTERNATIONAL** El Segundo, Calif.	Electronics, automotive parts	800.0	29.0	12,633.1	29	6.3	45
37	•	**XEROX** Stamford, Conn.	Copiers, printers	770.0	93.0	17,635.0	21	4.4	48
38	33	**BAYER USA** Pittsburgh	Health goods, chemicals, photographics	759.5	7.3	5,424.7	91	14.0	24
39	34	**LOCKHEED** Calabasas, Calif.	Aircraft, electronics, missile systems	754.0	9.9	9,932.0	45	7.6	42
40	•	**SUN MICROSYSTEMS** Mountain View, Calif.	Computers and related equipment	751.0	99.3	1,769.2	232	42.4	2
41	38	**DEERE** Moline, Ill.	Farm and industrial equipment	742.0	19.3	7,221.0	66	10.3	32
42	42	**HONEYWELL** Minneapolis	Control and flight systems	718.0	17.7	7,241.6	65	9.9	34
43	44	**NORTH AMERICAN PHILIPS** New York City	Components, electronics, lighting	693.6	17.9	6,202.6	74	11.2	30
44	48	**ABBOTT LABORATORIES** Abbott Park, Ill.	Drugs, diagnostic equipment	685.0	25.2	5,453.5	90	12.6	28
45	46	**AMOCO** Chicago	Chemicals	668.0	15.6	24,214.0	12	2.8	49
46	•	**TENNECO** Houston	Farm, construction, and auto equipment	644.0	28.8	14,439.0	26	4.5	47
47	•	**BRISTOL-MYERS SQUIBB** New York City	Drugs, medical devices, consumer products	638.0	N.A.	9,422.0	50	6.8	43
48	37	**FMC** Chicago	Armored military vehicles, chemicals	631.4	(2.5)	3,461.0	133	18.2	11
49	49	**ETHYL** Richmond	Specialty and petroleum chemicals	592.7	9.2	2,754.9	162	21.5	9
50	•	**COOPER INDUSTRIES** Houston	Electrical equipment and compressors	571.5	27.8	5,129.4	101	11.1	31
		TOTALS		110,081.7	13.9	979,614.6			

NOTE

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Maria Monet,
CFO, Ogden Corp.
There aren't many like her.

500
THE GLOBAL 500
JULY 30, 1990
VOL. 122, NO. 3

FORTUNE

ABOVE: Boeing VP Edith Martin was told she can be frightening to work for. Photograph by Antonin Kratochvil.

COVER: Kratochvil also caught Maria Monet, who hit the glass ceiling twice before becoming CFO of Ogden Corp.

"Our best hope for the future are women who don't see the ceiling but the sky." PAGE 40

MANAGING/Cover Story

WHY WOMEN STILL DON'T HIT THE TOP 40

The cool reception women once got at the door has followed them up the organizational hierarchy. Although they have gained access to virtually every line of work and are bulging in the pipeline, only a minuscule number have top jobs at America's major companies. Some deem the sacrifices too great and deliberately leap off the fast track. But discrimination—however subtle—plays a part. *by Jaclyn Fierman*

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Institutional investors want more—and more—say in how companies are run. They're changing the world for managers. *by Brett Duval Fromson*

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FORTUNE's CEO Poll finds even the loudest of the newly active institutional investors are welcome—if they stay for the long haul. *by Terence P. Paré*

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"If activism gets to the point where investors form networks, it could be very bad." PAGE 95

"The Ivy League look is over. You need to look like the guy who just stepped off the Concorde." PAGE 123

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As ethnic and nationalist tensions rise and the Communist Party's grip weakens, the economy is disintegrating. So now meet a surprising new group of Soviet entrepreneurs who insist that private property and free markets are the only hope. *by Richard I. Kirkland Jr.*

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While property values once seemed to waft blessedly upward year after year, owning a home now almost requires a leap of faith. Despite talk about a real estate collapse, the economic advantages of ownership are hard to beat. Just don't expect your house to make you rich. *by Terence P. Paré*

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EDITOR'S DESK

SHONNA VALESKA

Alison Sprout, Walter Kiechel, Susan Fraker, and Jaclyn Fierman

HOW CAN WE ever hope to beat the Japanese? One of America's great competitive weapons is that we are far ahead of the Japanese and most other foreign competitors in at last beginning to admit women to positions of real power. With more potential leaders to choose from, we are destined to choose better leaders.

And yet. We at FORTUNE continue to ask the nagging, crucial question: Why aren't more women making it to the top in American business? Says assistant managing editor Walter Kiechel, who suggested our cover story (page 40): "Every conversation I have with women executives inevitably leads to this issue."

Writer Jaclyn Fierman and reporter Alison Sprout, helped by the Directorship information services firm, examined some 250 annual reports and 800 proxy statements to find out just how many women have broken into the top ranks. Surprisingly, says Fierman, "no other timely research existed that tracked the progress of women in upper management." Over four months she and Sprout also interviewed dozens of women managers. "I was struck by how many of them came right out and said that you can't have it all," says Fierman. Maybe not. But as a top journalist and mother of a 20-month-old daughter, she herself comes close.

Susan Fraker, who edited the article, brings a helpful perspective from a FORTUNE cover story that she wrote in 1984, "Why Women Aren't Getting to the Top." She says, "The biggest change since then is that men, particularly CEOs, seem to recognize that they've got a problem and have to do something about it. That's encouraging."

Also in this issue, we introduce the FORTUNE Global 500. Our new list, beginning on page 263, is a whole-earth catalogue of the biggest corporations ranked by sales, a melding of our list of the 500 largest U.S. industrials and our old International 500 listing of the largest industrials outside the U.S. "This is a global economy," says international editor Donald Holt, "and business people now want to know how they rank against their global competitors everywhere."

Reporters Jung Ah Pak and Sally Solo, working under the direction of chief of reporters Evelyn Benjamin, cracked the codes of accounting systems worldwide. They pulled together figures on assets, stockholders' equity, numbers of employees, sales, and profits. Meanwhile, reporter Nora Field compiled the list of the world's largest banks, on page 324. She, Pak, and Solo finished their tasks with one common question: How could we ever have gathered the numbers from all around the world before fax machines?

Marshall Loeb
MANAGING EDITOR

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WHY WOMEN STILL DON'T HIT THE TOP

Much of what was supposed to change hasn't. Some women leave their jobs because the sacrifices seem too great. But discrimination—however subtle—plays a part.

■ *by Jaclyn Fierman*

WHEN WILL WOMEN in decent numbers finally make it into the highest ranks of corporate America? The short answer: not in this millennium. By the year 2000 women will make up nearly half the labor force. But it won't be the top half. The cool reception women once got at the door has followed them up the organizational hierarchy. For all but an exceptional few, the corner office still looks as remote as it did to Rosie the Riveter.

> "I USED TO THINK I COULD WORK AND RAISE A FAMILY. I REALIZE NOW IT'S HARD JUST TO DO MY JOB WELL."
>
> **Maria Monet**
> **Chief financial officer**
> **Ogden**

Just wait, was the old excuse. A decade ago even women's staunchest male advocates said time had to pass; women lacked the seasoning and seniority to run the show. Today that explanation rings increasingly hollow. Women have gained access to virtually every line of work and are bulging in the pipeline: The U.S. Department of Labor says they make up 40% of a loosely defined demographic category of managers and administrators that covers everyone from President Bush to the person running the local Dairy Queen. But only a minuscule number of women have top jobs at America's major companies, and not many more are in the zone for promotion to those jobs anytime soon. Says Judy Mello, 46, in the early 1980s CEO of First Women's Bank in New York City: "My generation came out of graduate school 15 or 20 years ago. The men are now next in line to run major corporations. The women are not. Period."

Want proof? FORTUNE examined 1990 proxy statements of the 799 public companies on its combined lists of the 1,000 largest U.S. industrial and service companies. The cold-shower findings: Of the 4,012 people listed as the highest-paid officers and directors of their companies, we spotted 19 women—less than one-half of 1% (see chart). True, there has been progress, but it has been remarkably limited. When FORTUNE undertook a similar project in 1978, out of 6,400 officers and directors on its combined lists, which then included 1,000 industrial and 300 service companies, ten were women.

Further down the ranks the numbers are more heartening. But only slightly. To get an idea of the count—there are no authoritative studies of the number of women in upper management—FORTUNE looked through the names at the back of the annual reports of 255 major corporations. The list often goes as deep in the organization as division head and assistant vice president, and includes positions like corporate secretary that have frequently gone to women. Of the 9,293 names, 5% were women. (Admittedly, some women, especially initial users, may have escaped us, though we did pay special attention to the Leslies, Carols, and Gales. And some men may have slipped through our screen, though we did catch Mr. Shirley Beavers of First Virginia Banks.)

To once again raise a question FORTUNE posed 17 years ago when it first looked at women in the executive suite, where in blazes *are* they? Many women aren't rising to the top of large corporations because they quit or deliberately leap off the fast track. They miss their children. They miss not having *had* children. A better opportunity comes along. Or they just get tired and want out of the rat race. As comedienne Lily Tomlin quipped, "If I had known what it would be like to have it all, I might have settled for less."

For many baby-boom women, the 1980s effectively destroyed the notion that they could have it all: a full-blown career, a happy marriage, well-adjusted children, and cellulite-free thighs. Blessed with first-class educations, middle-class drive, and a sense of unlimited opportunities, these women expected a lot of themselves. They also expected equal treatment in the workplace. And they wanted to give their families—if they ever got around to having them—the same security that June Cleaver gave her children. Well-intentioned but torn asunder,

> "I'VE NEVER PARTICULARLY THOUGHT OF MYSELF AS A WOMAN IN BUSINESS, SO I'VE NEVER LET IT GET IN MY WAY."
>
> **Kathryn Braun**
> **Senior vice president**
> **Western Digital**

many understandably failed as Supermoms.

But some women were willing to tough it out, stay the course, and make the necessary sacrifices. What they have run up against can only be called discrimination. Discrimination, you scoff, in this enlightened age? Yes, says Ralph Ablon, chairman of Ogden Corp., No. 74 on FORTUNE's list of the 100 largest diversified service companies: "Sure there's discrimination. It's stupid to say there's not. Despite our intellectual efforts to deny it, prejudices exist and will exist until a new generation comes along that doesn't have them." That generation, it bears remembering, was supposed to be the baby boom, many of whose men have already assumed key decision-making roles at large companies.

At age 73, Ablon seems an unlikely harbinger of new thinking. But three years ago he appointed Maria Monet, now 40, as his company's chief financial officer, and he pays her more than $730,000 a year, making her one of the top-earning women in corporate America. Enlightenment, Ablon concedes, has come only with age and a lot of contemplation: "When I became CEO 29 years ago, I don't believe I could have been as liberal. And I couldn't have gotten away with appointing a woman as CFO. Today I could."

A recent poll of FORTUNE 1,000 CEOs shows that Ablon isn't alone in finding discrimination at work. Nearly 80% of 241 respondents to a survey conducted by Catalyst, a group that does research on women in the workplace, said there are identifiable barriers that keep women from reaching the top. No, they say, women do not lack the technical skills to make it. After all, they have been going to the same schools as their male counterparts and now represent over half of all college students, 37% of graduate business students, and roughly 40% of law students. The problems, said an astonishing 81% of the CEOs who acknowledged the existence of barriers, are stereotyping and preconceptions.

This is a subtle, tricky, but nonetheless pernicious form of discrimination, more apparent in the result—just look at the numbers—than in anyone's conscious intentions. Ask the typical male executive if he is prejudiced against women, and he will roundly deny it. But when it comes to choosing among several rivals for a top corporate job, he chooses a man. The next time, he does the same thing. And the next. Even Ablon, who recently retired as CEO of Ogden, chose not Monet but a man—his 40-year-old son, Richard—to succeed him.

"HE TOLD ME TO WALK MORE FEMININELY, TALK MORE FEMININELY, WEAR MAKEUP, AND HAVE MY HAIR STYLED."

Ann Hopkins
Senior budget officer
The World Bank

What nonsense, you counter—if women don't get top jobs, they don't deserve them. Undoubtedly so in many cases. Besides, the volume of the uppermost quarter of any pyramid is only 1.6% of the whole, a geometric fact that automatically eliminates most women—*and men*—who aspire to the top. True also that the average CEO is in his mid-50s and most business schools began admitting women in significant numbers only in the early 1970s, which puts them around fortysomething today.

But John Reed had no trouble seeing over his desk six years ago when he was promoted to CEO of Citicorp at age 45. Nor does Cigna CEO Wilson Taylor, who is now 46. Even allowing that many women still aren't old enough or talented enough to be CEO, more should be joining their male contemporaries in the executive dining room. CEO John Mascotte of Continental Corp., a property and casualty company with $14 billion in assets, was stunned when he started counting. Two-thirds of his 15,000 employees are women, but nine out of ten senior managers are men. Says he: "It seems idiotic if we're investing in people but making it impossible for them to advance. Are we sending out signals that women need not aspire to the top?"

The signals may be no more than a slight rustling of discomfort, a bit of awkwardness in a man's body language. It may seem surprising in an era sometimes labeled postfeminist, but working closely with the opposite sex continues to make many male executives uncomfortable. Listen to Ellie Raynolds, a partner at the headhunting firm Ward Howell International: "Corporate males still don't know how to deal with women. They are afraid to yell at them or to give them negative feedback. It's as though they think they are yelling at their mothers or their wives. Men often worry women will run from the room in tears, or worse yet, yell back. They're not really sure the women will come through for them. They just don't trust them as much as the guys with whom they talk football."

Haven't we heard this before? But after ten years of supposed progress, too many of the old, uncomfortable ways persist. The offense may be as banal as the mere existence of Merrill Lynch's Chowder and Marching

REPORTER ASSOCIATE *Alison Sprout*

Society, a group of men who get together now and then for drinks and dinner. Or it may be tougher to read. “You'd hear things,” says Deborah Farrington, 39, who went to Merrill Lynch after graduating from Harvard business school in 1976. “There were innuendoes. If you wore dark blue suits with floppy bow ties, there would be no talk about whether you were being flirtatious. But if you were attractive and dressed stylishly, people took you less seriously.” Farrington, who spent a decade at Merrill, feels she can more easily be herself as head of corporate finance in Hong Kong for Asian Oceanic Group, a small merchant bank.

Try as women have to fit into the male business milieu, men still think they do a lousy job of it. Many believe corporate women are weak in interpersonal skills, a dimension that's largely ineffable but critical to achieving a high corporate position, where competence is assumed and chemistry often becomes key. Sometimes men see women as pushovers. More often they find women overbearing. “The most common lament of top management men is ‘She's too shrill. She's too aggressive. She's too hard-edged,’ ” says Kenneth Brousseau, president of Decision Dynamics Corp., a human resources consulting firm in Santa Monica, California.

WOMEN POINT TO the persistence of precisely this attitude as the most pernicious example of discrimination in the workplace. If they are too feminine, they are viewed as softies; too masculine, and they're abrasive. “It's as if we're being asked to play a Beethoven sonata in two octaves,” says Arlene Johnson, who directs work force

NAME	AGE	COMPANY	TITLE	1989 CASH COMPENSATION	FAMILY STATUS
Rosetta Bailey	55	Citizens Federal Bank	Senior vice president	$123,272	Married, two children
Jill Barad	39	Mattel	Division president	$504,923	Married, two children
Ilene Beal	44	BayBanks	Executive vice president	$163,020	Single, no children
Cathleen Black	46	Gannett	Executive vice president	$600,000	Married, one child
Kathryn Braun	39	Western Digital	Senior vice president	$255,365	Married, one stepchild
Jean Carrick	43	Delta Woodside Industries	Corporate controller	$76,342	Divorced, no children
Patricia Dawley	52	Anchor Savings Bank	Executive vice president, secretary	$139,500	Divorced, no children
Katharine Graham	73	Washington Post	Chairman, chief executive officer	$739,874	Widowed, four children
Jane Greer	51	Delta Woodside Industries	Vice president	$166,898	Divorced, no children
Bernice Lavin	64	Alberto-Culver	Vice president, secretary, treasurer	$513,746	Married, three children
Nina McLemore	45	Liz Claiborne	Senior vice president	$600,000	Married, no children
Debbie Miede	34	Downey Savings & Loan	Senior vice president	$140,892	Married, three children
Maria Monet	40	Ogden	Chief financial officer	$733,617	Married, no children
Hazel O'Leary	53	Northern States Power	Senior vice president	$174,170	Widowed, one child
Carole St. Mark	43	Pitney Bowes	Division president	$376,946	Divorced, no children
Mary Sammons	43	Fred Meyer	Senior vice president	$253,847	Married, one child
Marion Sandler	59	Golden West Financial	President, chief executive officer	$665,357	Married, two children
Irene Adams Staskin	60	Kelly Services	Senior vice president	$214,500	Married, two children
Faye Widenmann	41	Pinnacle West Capital	Vice president, secretary	$82,889	Divorced, no children

Olive Beech	74	Beech Aircraft	Chairman	$203,000*
Carol Goldberg	47	Stop & Shop Cos.	Division president	$86,000
Katharine Graham	61	Washington Post	Chairman, chief executive officer	$300,000
Bernice Lavin	52	Alberto-Culver	Vice president, secretary, treasurer	$96,000
Joan Manley	45	Time Inc.	Vice president	$203,000
Dorothy Moore	50	Michigan General	Secretary	$55,000
Juliette Moran	61	GAF	Executive vice president	$112,500
Vera Neumann	67	Manhattan Industries	Division chairman	$115,000
Marion Sandler	47	Golden West Financial	Vice chairman	$144,400
Rose Small	65	Bluebird	Vice president	$41,600

These are the only women among the highest-paid officers and directors of the publicly held FORTUNE 500 service and industrial companies, as listed in their proxies. The 1990 women are about a decade younger than those from 1978, but they still make up less than one-half of 1% of the total.

SOURCE: DIRECTORSHIP DATABANK

*1977 cash compensation for Olive Beech and the nine other women on the list.

studies for the Conference Board, a business research organization in New York. "We need the whole keyboard to show our range."

The recently decided case of Ann Hopkins, 46, formerly a management consultant at Price Waterhouse, affords a striking example of how such stereotyping works. In May a federal judge ordered the accounting firm to make Hopkins a partner and give her $370,000 in back pay because it had unfairly discriminated against her. The firm, which counts 27 women among its 876 partners, recently filed an appeal.

What happened: In 1982, Hopkins and 87 colleagues, all men, came up for consideration as partners. Though in the previous few years she had played a big part in securing some $40 million in contracts for the firm, an amount she says was more than that of any other candidate for partner in 1982, she was not among the 47 people promoted; Price Waterhouse will neither confirm nor deny Hopkins's claim. "Any woman who can be a success with her clients should qualify as partner," says Cynthia Turk, 37, who recently resigned as partner from a Price Waterhouse competitor, Deloitte & Touche, to set up her own consulting firm. "This was a clear case of discrimination."

> "I'M TOLD I CAN BE FRIGHTENING TO WORK FOR, BUT I'M STILL ONLY 5 FEET 5 INCHES AND WEIGH 100 POUNDS."
>
> **Edith Martin**
> **Vice president**
> **Boeing**

The court, in agreeing, found particularly damning a remark made by Hopkins's mentor and chief supporter. "He told me to walk more femininely, talk more femininely, wear makeup, have my hair styled, and wear jewelry," says Hopkins, now a senior budget officer at the World Bank. Hopkins, who has two sons, 11 and 12, and a 14-year-old daughter, says the advice was largely useless: "I already wear jewelry and high heels, and I go to the beauty parlor. But I'm allergic to makeup." Even if she weren't allergic, Hopkins says applying the makeup would be difficult because she can't see without her trifocals.

Faced with this kind of prejudice, women who set their sights on top jobs and actually get them develop 20-20 vision when it comes to corporate folkways. "They understand that competence and a bus token will only get them across town," says psychologist Dee Soder, president of New York's Endymion Co., which counsels women and men who want to scale the corporate Everest. The experiences of the women on FORTUNE's best-compensated list, plus war stories from Hopkins and other high-achieving women identified by FORTUNE, show just how tricky it is to navigate the ascent.

Go-getters who stand out in the ranks can *stick out* at the top. "When I first started out, I was extremely rough around the edges," says Lois Juliber, president of Colgate-Palmolive's Far East/Canada division. "Bully wouldn't be the right word, but I was the toughest of the tough. I didn't listen well. I had to mellow and learn to trust people."

IT MAY HELP to regard the experiences of women in business as akin to infiltrating an alien world. Maria Monet of Ogden has been feeling her way and finding it since she emigrated to the U.S. from Portugal when she was 5 years old. "I grew up trying to fit in with a different culture. I didn't speak English when I went to kindergarten," she says.

Monet had her share of setbacks on the corporate climb. Twice she hit the proverbial glass ceiling, a barrier that enables women to glimpse but not grasp the corner office. A lawyer by training, she began as an associate at the Wall Street firm of Shearman & Sterling in 1974. But by 1980 it was still largely a white-shoe—no heels—firm, and Monet failed to make partner.

Investment banking, she thought, would be different. After 18 months of round-the-clock dealmaking at Lehman Brothers, she

> "WHEN I FIRST STARTED OUT, I WAS EXTREMELY ROUGH AROUND THE EDGES. I HAD TO LEARN TO TRUST PEOPLE."
>
> **Lois Juliber**
> **Division president**
> **Colgate-Palmolive**

took stock: All the partners were men. So when an Ogden executive whom she met on a deal offered her a job, she leaped again. Monet quickly established herself at Ogden by reducing the time between the start and close of a deal from two years to six months. In three years she rose to chief financial officer.

IF WOMEN WHO are puzzling over appropriate boardroom behavior feel as if their heads are spinning, so do male managers. Just what do women want, anyway? The vast majority have lobbied aggressively for special treatment. And they are getting it. Hewitt Associates, a benefits and compensation consulting firm in Chicago, found that 56% of 259 major employers offer some sort of child-care aid, 56% allow flexible scheduling, and 42% grant unpaid parental leave.

But along comes a select group of women who want no special favors—just a top job, thank you. These women figure their best shot at success is at gender-blind companies that make no concessions to their needs and require them to work the same hours as men. "There is no such thing as job sharing or part time at the top," says Phyllis Swersky, 39, executive vice president of AICorp Inc., a computer software company outside Boston. Swersky began holding meetings in her living room two days after she came home from the hospital after delivering her third child.

America's most successful businesswomen wave not the feminist banner but the corporate one. "I've never particularly thought of myself as a woman in business, so I've never let it get in my way," says Kathryn Braun, 39, senior vice president of Western Digital, a major supplier of personal computer parts in Irvine, California.

These women have interpersonal skills sufficient to finesse them through difficult situations. Edith Martin, 45, who was a Deputy Under Secretary of Defense under President Reagan and is now a vice president at Boeing, recalls the time she went on an executive outing while at Control Data. The luncheon grill was an extension of the men's locker room. Rather than sitting around with a bunch of towel-clad hearties, Martin decided to hit tennis balls while the men ate. "Yes, there are awkward moments," she says. "You can either walk off with a hot head or laugh it off. But after you have a couple of drinks and everyone laughs it off, it brings you closer." Moral: Greet the wrong gesture with the right attitude.

In breaking through stereotypes, the adage that line jobs are the straightest line to the top still holds. Women should take a lead from men and steer clear of dead ends like personnel and public relations. The most successful have typically sought out risky, thankless projects whose results become immediately apparent on the bottom line. "You have to prove you're a leader. You have to show you're willing to steal second base. Women don't project that ability well," says Mary Rudie Barneby, 38, who built from scratch a $3 billion corporate retirement plan business for Merrill Lynch. She now heads a similar division for Dreyfus Corp. in New York City.

Maria Monet stole second while working at Lehman Brothers. Her client, Ogden Corp., wanted to build a waste-to-energy plant in Oregon, but the county thought the financing it would have to provide was too burdensome. Monet calculated that if the county floated variable- rather than fixed-rate bonds to pay for construction, it could save about $5 million. "I was so new at investment banking, I didn't even realize the problems I had created," she says. "Financing a waste-to-energy project whose future revenues were predictable with bonds whose interest rates were not was unheard of." But Monet persisted, won the bankers' confidence, and caught the eye of Ogden Chairman Ablon. Her creative financing set a new industry standard and, she's convinced, clinched her career.

What Western Digital's Braun calls her acid test entailed resisting Wall Street naysayers to buy the assets of Tandon Corp.'s faltering disk drive division in 1988. Braun decided she had no choice: Without disks, she predicted, Western Digital's bread-and-butter business—computer information storage—wouldn't survive. She felt sure that the next generation of storage chips would reside directly in the disks. She guessed right. "We managed our way through the crisis," she says.

ONE OF the explanations still cited for why women fail to get to the top is that they don't stick to it; they leave jobs more often than men do. Conclusive evidence on the point is hard to come by. But women do seem more willing than men to act on their desires for something else, perhaps because they are so acutely aware of the personal sacrifices they are making to work. When Opinion Research Corp. of Princeton, New Jersey, asked 26,500 managers in seven large companies whether they intended to quit their jobs in the next year, 17% of women said yes, compared with 11% of men.

If women would just hang in there and be patient, the thinking goes, more might reach their goals. Perhaps, allows Dreyfus Corp.'s Barneby, who in 14 years rose from clerical worker to one of the highest-ranking women at Merrill Lynch. "If I had waited, I think I would have had a shot at the top rungs," she says. "But I got tired of pushing. My shoulder started to hurt."

Don't Blame the Baby is the name Wick & Co., a Delaware consulting firm, gave its recent study of why male and female managers change jobs. The Wick research, a survey of 110 executives, found that most women quit jobs not to rock the cradle but to find greater career satisfaction somewhere else.

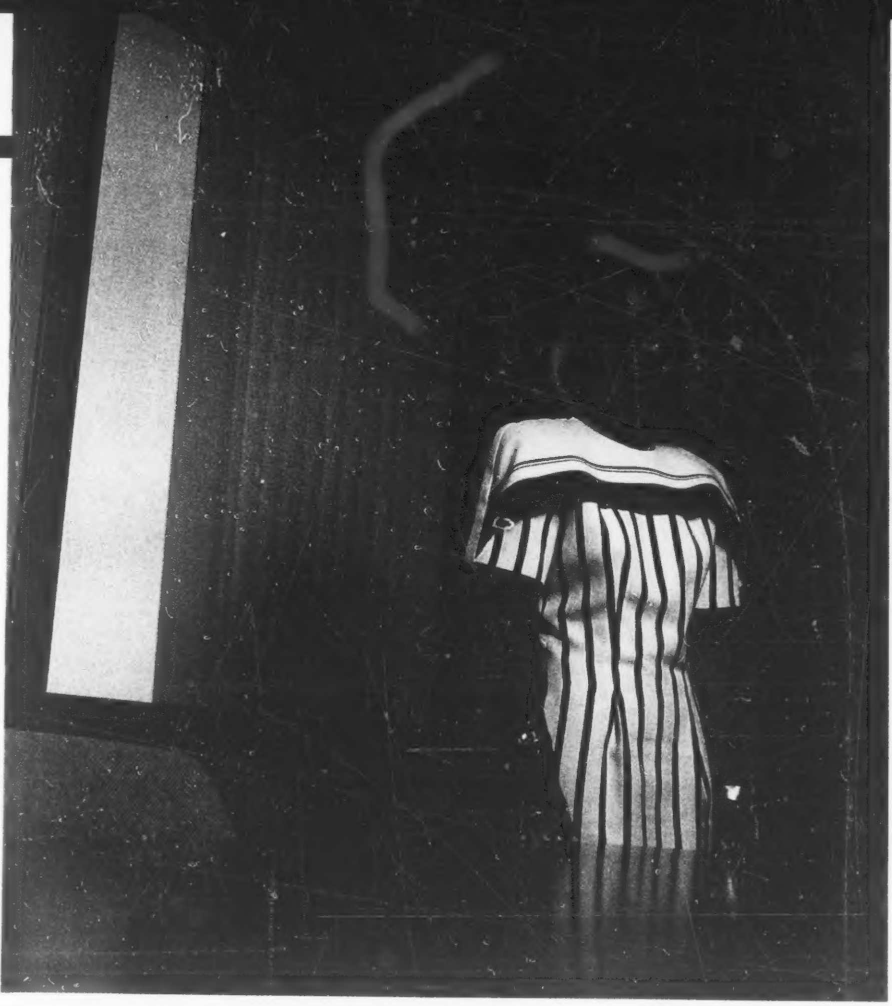
Nonetheless, virtually every woman interviewed for this article acknowledged the heavy—and sometimes painful—demands of juggling family or personal life and the fast track. Observes John Rosenblum, dean of the University of Virginia's Darden graduate school of business administration: "Women are discouraged about their ability to realize a vision of life that has family, career, and happiness all in the same sentence."

In choosing to make the corporate climb, Monet let some of life's other options go. She has no children and sees her husband, a general partner at Montgomery Securities in San Francisco, once a month. She reports to work every morning at seven at the New York headquarters of Ogden, which operates sports arenas, power plants, and convention centers. She eats lunch at her desk and tops off her 11-hour day with a 1½-hour workout at a nearby health club. "I used to think I could work, get married, and raise a family," she says. "I realize now it's hard enough just to do my job well. It was a rude awakening."

One very senior woman at a large consumer products company asked not to be quoted by name when she spoke of the price she had paid for success. "I would never want my mother to know how much it hurts me to be childless," she says. She is hardly alone. Nearly half the women on FORTUNE's 1990 list of highly paid women are childless, five are divorced, and one never married. Claudia Goldin, the first tenured economics professor at Harvard, feels she might not have achieved her position had she had a family. "I'm at the top of my profession now, and it took a tremendous amount of concentration and focus in a brief period of time. If I were married and had kids, I probably wouldn't have had the energy."

WOMEN WHO DO try to combine traditional and fast-track lifestyles need a rock-solid infrastructure at home. Swersky of AICorp has a live-in nanny to care for her three children, ages 8, 5, and 4. She also has a live-in housekeeper and a supportive husband who runs his own accounting firm. Says Swersky: "I don't take care of the house. I don't cook. I don't do laundry. I don't market. I don't take my children to malls and museums. And I don't have close friends."

She typically leaves the house before 8 A.M. and returns around 7 P.M. "I am often gone longer, not shorter, than this," she says. "I am frequently too tired to tell my husband about my day, listen to him tell me about his, or play with the children. It was a major challenge just to figure out a simple hair style and makeup for myself."



"I DON'T COOK. I DON'T TAKE MY CHILDREN TO MALLS AND MUSEUMS. AND I DON'T HAVE ANY CLOSE FRIENDS."

Phyllis Swersky
Executive vice president
AICorp

On the question of when to bear the brood, women are often not in sync with their employers. "From an organizational point of view, the early 20s is the best time to have children," says Mary Anne Devanna, associate dean of the Columbia University graduate school of business. "Employers don't care what people do before they enter the work force." Probably so, but many women don't feel ready at that age. Says Blair Sheppard, 38, director of the human resource management center at Duke University's Fuqua graduate school of business: "The whole career ladder in the U.S. is predicated on the life cycle of a man. We tell people to prove themselves between 30 and 38. But that's when executive women tend to have babies."

The lesson: Having it all is easier if you don't insist on having it all at once. Rosetta Bailey, 55, now senior vice president at Citizens Federal Bank in Florida and a member of FORTUNE's 1990 list, worked as a receptionist and teller in the bank for 15 years while raising two children. "By the time I got to a management level, it wasn't necessary for me to be with my children all the time," she says.

Ambitious women would do well to choose employers whose expectations are compatible with their own. Banking has always been fertile ground, perhaps because women have been paying their dues for years and now represent 91% of tellers, for instance. High-tech companies and small startup ventures too bent on survival to be exclusionary are also women-friendly. "There is no old boy network in my industry, because it's too new," says Western Digital's Braun. "So women rise more easily through the ranks."

In a business where product life cycles are as short as two years, qualified women—and men—tend to be promoted more rapidly than colleagues at mature consumer products or industrial companies. Braun headed for Southern California 17 years ago, a biology and psychology graduate fresh out of Duke University. Her first job was on the assembly line of a minicomputer manufacturer. When she realized that women weren't being promoted into sales, she quit and joined Western Digital in 1978 as a technical support person. Today she heads the company's most profitable division, which so far this year has sold $200 million of intelligent disk drives and other storage products for personal computers.

No business is as receptive as the one whose CEO feels comfortable with women at his side. "If I were working for my first employer today, I would still be a middle manager," says Ilene Beal, one of three executive vice presidents at BayBanks, outside Boston. Of her current boss, CEO William Crozier, she says, "He only cares about getting the job done. Maybe it's because he's married to a Ph.D. who has more degrees than he does."

Will the glass ceiling ever disappear? Yes, if history is any guide. But it won't crack and fall all at once, or even soon. For most of the first half of this century, married women were almost unemployable: they couldn't even get office jobs. When they entered the work force in large numbers during World War II, it was not so much because men wanted to hire them as because the country needed them.

The next big wave of women—mostly baby-boomers—began working in the 1970s. Men were more receptive to them, but ambivalence abounded; as recently as 1978 there were urinals in the ladies' rooms at Harvard business school. And women managers still make only 64% of what men do.

Harvard's Goldin, for one, argues that conditions for working women will gradually get better. "While there is still reason to clamor, women have made great strides, especially in the past ten years," says Goldin, author of a new book called *Understanding the Gender Gap*. She notes that in the Department of Labor's broad management category, the gap between men's and women's wages narrowed 18.5% between 1979 and 1988.

Women who look at the world not as historians but as victims may scoff at Goldin's perspective. They are also the ones least likely to survive in the corporate jungle. "Our best hope for the future are women who don't see the ceiling but the sky," says Goldin. Indeed, the best defense in a hostile world is to shed the defensive posture. "A group wants to feel that you're part of it," says Monet. "If you don't look like them, you already have something to overcome. Most men just haven't had enough experience working with women."

"I AM AT THE TOP OF MY PROFESSION. I DON'T KNOW IF I COULD HAVE MADE IT IF I WERE MARRIED AND HAD KIDS."

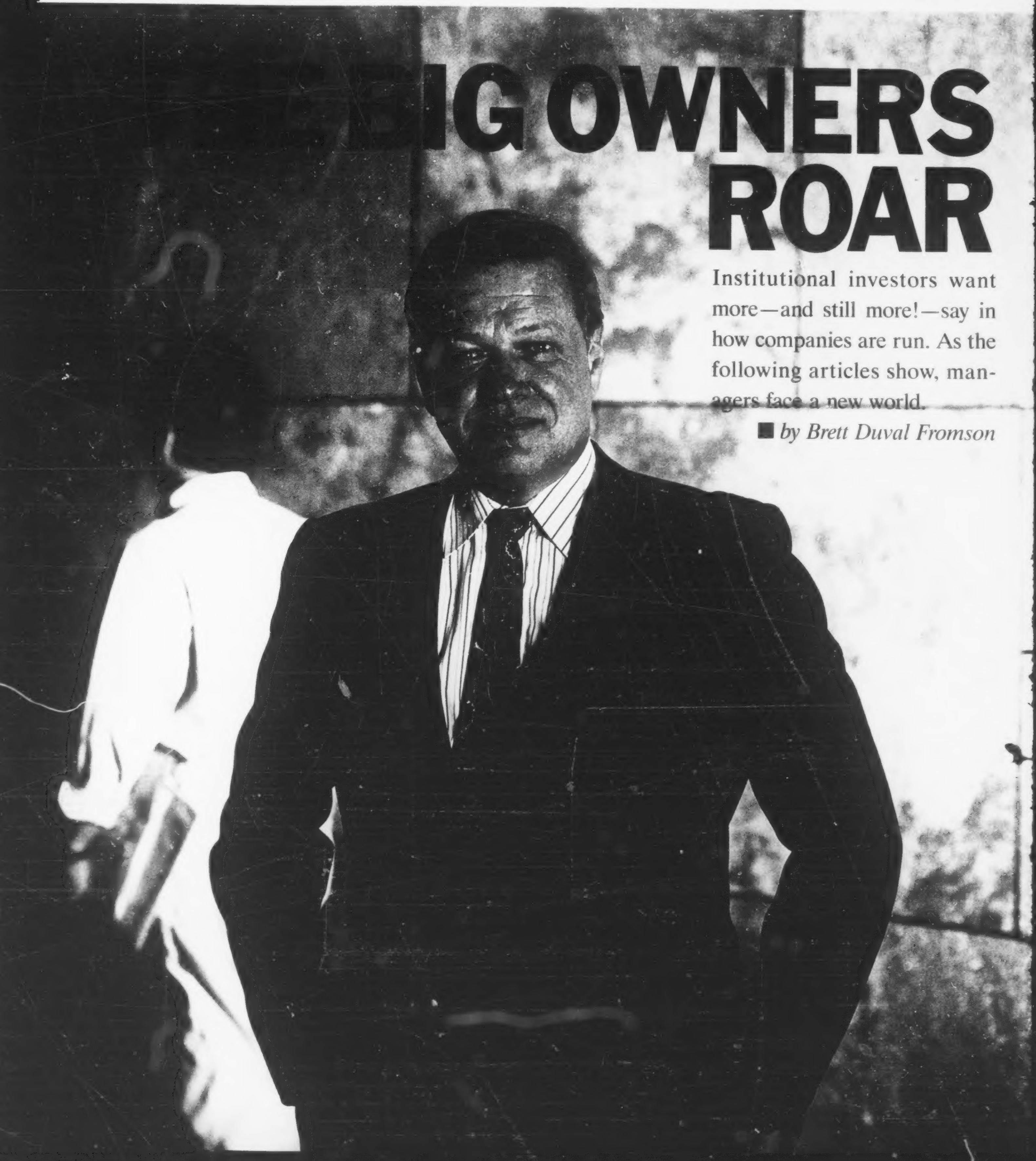
Claudia Goldin
Professor of economics
Harvard University

In the meantime, what can parents do to nudge things along? For starters, they should emphasize self-reliance in their daughters. Superachievers share a gritty, pioneering spirit, says New York psychologist Dee Soder. "I have yet to meet a truly successful woman who didn't have a courage-building experience in her childhood." Typical is Ilene Beal of BayBanks, whose mother died when she was a child. "My father brought me up to think I could do anything. If I broke a toy, he taught me to fix it. He brought out the take-charge part of me."

Another small step: Parents should encourage their daughters to take as much interest in baseball and basketball as in Barbie. Not only would the girls gain fluency in the sportsspeak so common in business, but according to a 1986 survey of 2,043 adults by *Sports Illustrated*, one of FORTUNE's sister publications, sports lovers are more successful in life than nonfans. The poll also found that sports-minded people are wealthier, and perceive themselves as wittier, more popular, smarter, and more competitive than people who don't care about keeping score.

Parents might even inspire their daughters with Dr. Seuss's current bestseller, *Oh, the Places You'll Go!* "Remember that Life's a Great Balancing Act," says the man who speaks volumes to children. He urges: "On you will go though the weather be foul. On you will go though your enemies prowl . . . Onward up many a frightening creek, though your arms may get sore and your sneakers may leak . . . And will you succeed? Yes! You will, indeed! (98 and 3/4 percent guaranteed.)"

The odds for grownup women, of course, are slimmer, though demographics are on their side. Women and minorities are already the majority in the workplace, and a competitive corporate America will eventually have little choice but to include them in their leadership pool. Until then—for the next few decades, anyway—women may want to heed the following checklist for success, which itself, alas, carries no guarantee: Look like a lady; act like a man; work like a dog. F



BIG OWNERS ROAR

Institutional investors want more—and still more!—say in how companies are run. As the following articles show, managers face a new world.

■ *by Brett Duval Fromson*

DON'T RELAX, managers of America. Junk bond raiders may be less menacing than in the Eighties, but marching right behind them are far mightier challengers for corporate control: the vast institutions that own $1 trillion—you heard that number right—of your equity. That's seven times all the money raised via junk bonds in the Eighties. True, pension funds, mutual funds, insurance companies, and other institutions have been snoozing so deeply for so long that it's tempting to shrug off the threat. But that would be a serious mistake. Pension power will be one of the most important business forces of the Nineties.

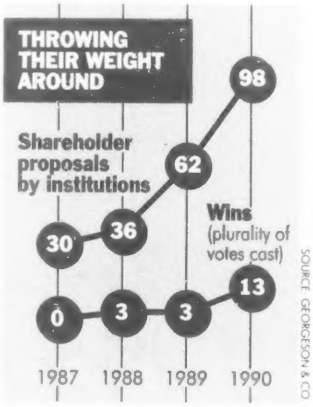
Owning more than half the stock in scores of FORTUNE 500 companies (see table), institutions are going after mediocre managers everywhere with their most potent weapon: proxy contests or the threat of them. So far this year institutions have put forward a record 98 shareholder resolutions, of which a remarkable 13 won a plurality of votes. Just three years ago institutions submitted 30 shareholder proposals, and not one earned a plurality (see chart, this page). These figures understate the institutions' impact because several proposals were dropped after management agreed to adopt them rather than face embarrassing public debate and possible defeat.

The institutions' recent victories have humbled executives of huge companies. At Honeywell, two of the biggest public pension funds, the California Public Employees' Retirement System (Calpers) and the Pennsylvania Public School Employees' Retirement System, helped launch a proxy battle that led management to restructure the company—with highly successful results. A host of public and private funds played Lockheed management off against would-be raider Harold Simmons to win seats on a reconfigured board and prompt bylaw changes that favor long-term shareholders. The Wisconsin Investment Board proposed putting Champion International's poison pill to a vote and won, despite strong opposition by the corporation's top executives, who are now under increased pressure to get their laggard company moving.

Why are institutions suddenly taking off the gloves? The primary reason is that they no longer have an easy exit from the market. So big are their portfolios that if they needed to sell a block of stock in a hurry, prices would fall faster than the Communist parties in Eastern Europe. Says Patricia Lipton, head of Wisconsin's Investment Board, responsible for $23 billion of mostly retirement money: "Rather than throwing up our hands and saying, 'This company is doing something we don't approve of—let's sell the stock,' we have to stay and work with management." Also, the Department of Labor, which supervises pension fund investment practices under the 1974 Employee Retirement Income Security Act (Erisa), recently told them that pension fund managers must vote in the best interests of their beneficiaries.

Perhaps more important, institutions see shareholder rights being whittled away all around them, and they want to fight the trend. Many major pension fund managers point to legal precedents such as last summer's Time Warner decision in the Delaware courts, which supported management's right to reject a takeover bid in favor of a long-term strategy. They think such decisions help entrench management. They also dislike a recent federal appeals court ruling that stopped the Securities and Exchange Commission from intervening on behalf of shareholders when companies issue stock with super voting rights. That's a device that gives extra votes to existing shareholders, often used to protect management against raiders.

The institutions are especially angry about the rash of new state antitakeover laws—in particular Pennsylvania's, which permits directors to favor the interests of so-called stakeholders, such as employees and customers, over those of owners. Says Robert Monks, the former Labor Department Erisa chief who now advises institutions: "These decisions make you sick to your stomach. They essentially strip away the rights of the shareholder and turn common stock into 'junk stock.' "



SOURCE: GEORGESON & CO

Public funds, which provide pension benefits for teachers and other public employees, are leading the charge. Preeminent among them is Calpers, America's largest pension fund with assets of $58 billion, headed by Dale Hanson. Public funds put forward half the shareholder proposals in the recent annual meeting season. So far the private funds, which cover corporate employees, remain meek in comparison.

The reason requires a bit of explanation. Any corporation can manage its employee pension fund and thereby vote all the proxies—or it can hire professional investment firms. In that case the professionals vote the proxies unless the corporation specifically takes back voting authority for itself. Most corporations want nothing to do with the voluminous record keeping and the legal responsibilities of managing their own pension funds, so the vast majority employ outside money managers and happily let their hired guns vote the pension fund's shares.

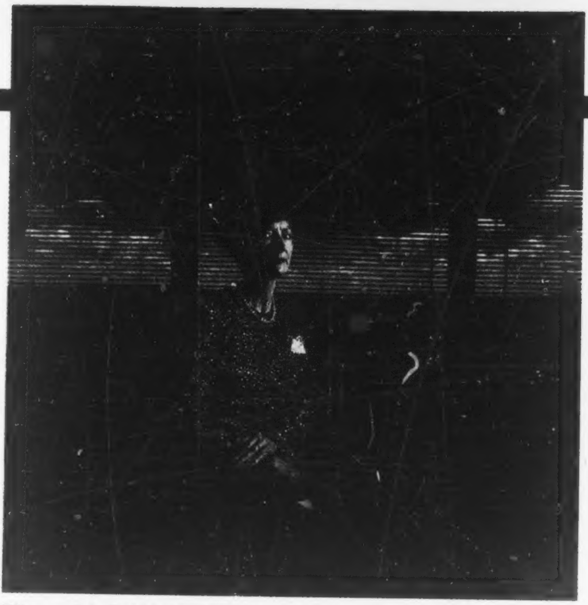
THE INDIVIDUAL money manager also tends to be reluctant to vote against corporate managements. If he does so, he may find that corporate clients, in solidarity with the money manager's targets, start removing their funds from his care. One of the more courageous opponents of antitakeover measures put in by companies, Dean LeBaron of the Boston-based investment management firm Batterymarch, has felt the sting. Despite a respectable 18.3% average annual return to clients in the past five years, Batterymarch has lost assets in part because of corporate displeasure with LeBaron's principled stand. But public funds are harder to retaliate against and worry far less about interfering with companies. They generally retain all proxy voting authority, although they are not required to.

Public or private, fund managers are as yet unsure how best to use their voices. Some emphasize "constructive dialogue" with management. Others cry for representation on the boards. Still others howl about poison pills, staggered boards, or confidential proxy voting. The basic demand is the same: more managerial accountability to shareholders.

Sometimes, instead of initiating a move, institutions follow another's lead with crushing force. That's what happened in their most notable success to date, at Honeywell, the Minneapolis maker of industrial controls. A month before the 1989 annual meeting, Edward Lampert, then a 26-year-old investment manager closely allied with Texas investor Richard Rainwater, read in the Honeywell proxy of two disturbing antitakeover proposals by

America's biggest stockholder: Dale Hanson heads California's $58 billion pension fund.

PHOTOGRAPHS BY ABE FRAJNDLICH—SYGMA



Wisconsin's Pat Lipton is challenging Champion International.

management: to stagger the board of directors and to eliminate the owners' rights to take action, such as changing the company's bylaws, without involving management. Rainwater and Lampert owned 2.1% of the stock and planned to buy more.

So they turned to the institutions for help. In an unprecedented challenge to management by pension funds, Calpers and the Pennsylvania fund agreed to cosponsor the Rainwater proxy fight against the management proposals. Consultant Monks introduced the allies to one another. He enlisted the institutions by emphasizing that Rainwater and Lampert didn't want to take Honeywell over. This reassured the pension funds, which had no wish to throw out management. Says Hanson of Calpers: "We happen to be judicious about who we do business with."

The dissidents waged a low-key campaign through personal telephone pitches to as many big shareholders as they could reach. Result: Both of management's proposals lost. Honeywell said publicly that it had no plans to change its strategic focus. But privately, it had already arranged a confidential meeting between the two sides at which CEO James Renier didn't disagree with Rainwater and Lampert's suggestion that he focus the company on its lucrative controls business. He is doing that now by getting Honeywell out of money-losing defense operations and by improving profit margins in controls. Results could begin to get better this year. Honeywell's share price has surged from $60 to a recent $102.

INSTITUTIONAL investors often also take action on their own, and cleverly. They were not happy with the way CEO Daniel Tellep was running Lockheed, the troubled defense contractor. He took over in early 1989 and promised restless shareholders—46% of the stock is owned by institutions—that while there might be tough times ahead, in the long run his restructuring plan would yield excellent returns. He was right about the tough times. Lockheed took a $490 million write-off last year, and the share price dropped like a wounded whirlybird from $54.75 to $35.75. The institutions launched a fleet of shareholder proposals that would remove the company's poison pill, adopt confidential proxy voting, and opt out of the Delaware antitakeover statutes by amending the company's charter. Tellep and the board opposed them all.

Separately, raider Harold Simmons had bought 19% of the company's stock and asked for six seats on the 15-person board. Management said no, so Simmons announced his own slate of candidates for the board. Looking at the competing slates, the institutions took the role of kingmaker. You want us to support your candidates for the board? Then you'd better support our shareholder proposals. Lo and behold, Simmons did just that.

When the votes were counted, Tellep lost on the proposals, but his board candidates won. Seeing the institutions' power, he offered them three representatives on an expanded board, in part because Beverly Hamilton, the deputy comptroller of New York City responsible for its $38 billion pension funds, met with him. She told him that Lockheed's board did not have a majority of independent outsiders—people with no business links to the company—and that had to change. Hamilton's boss, New York City comptroller Elizabeth Holtzman, adds, "We also wanted the board to recognize that new global circumstances mean Lockheed must be prepared to adjust its business plan to reflect this new reality."

Tellep has since begun shutting down a redundant aircraft factory in Southern California and shedding 6,000 employees. Profits rose 11% on an 8% sales gain in this

New York City's Elizabeth Holtzman (sitting) and Beverly Hamilton: pushing the controls at Lockheed

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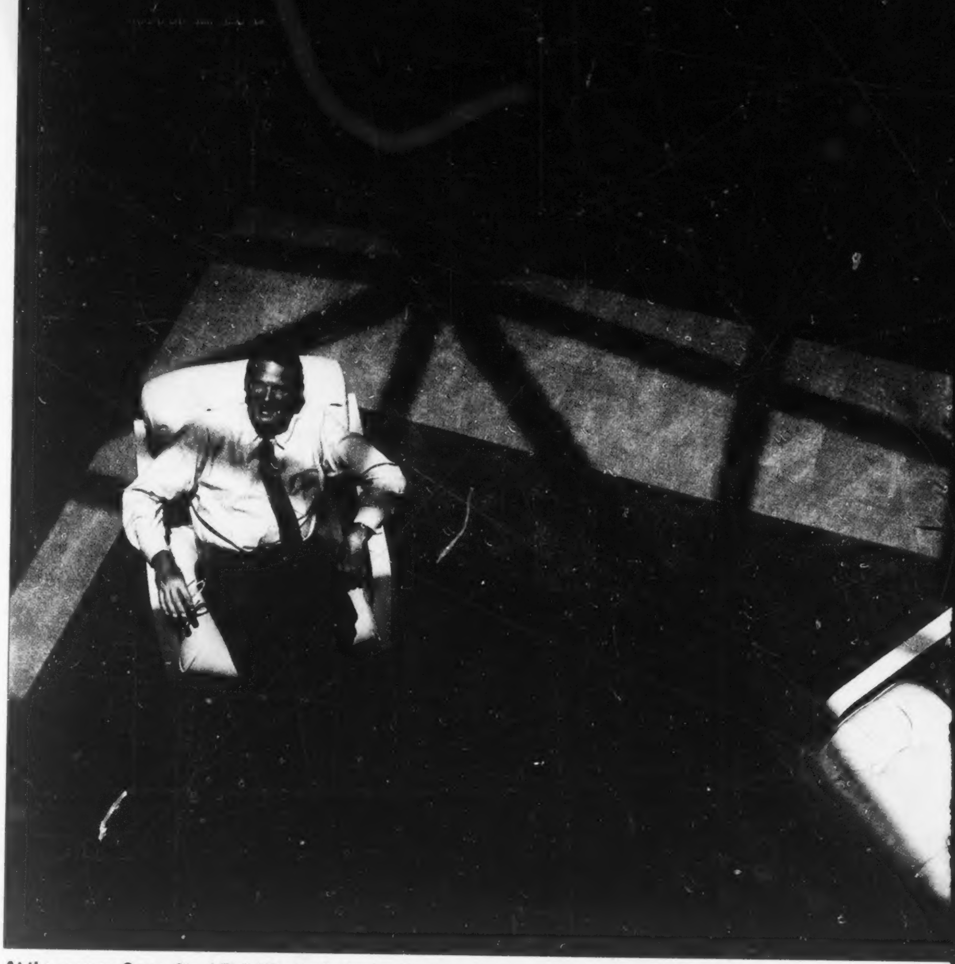


At the nexus: Consultant Bob Monks helps institutions join together to assert their rights as owners.

year's first quarter. Yet shareholder pressure on Tellep remains. Says a major institutional owner: "We see that Simmons hasn't sold his stock, we haven't, and the other large holders haven't." If things don't improve still more, he adds, "next year the vote might be different."

Institutions are tightening the screws right now on Champion International, an asset-rich paper manufacturer with mediocre earnings and a stock price—recently about $31—below what many analysts say is the asset value of the company's timber properties. CEO Andrew Sigler is an outspoken advocate of managing for the long term, but he has not delivered to his shareholders. The stock's total return over the past decade has averaged 6.4% annually, considerably less than investors could have received from riskless Treasury bonds. Sales were flat last year, and profits down. Sigler expects 1990 to be worse.

That may be why the Wisconsin Investment Board for the past two years has submitted a shareholder proposal that advised Sigler and the board to put the company's poison pill to a shareholder vote. The proposal last year drew 47% of the votes, a notably good showing considering that management opposed it.

Many fund managers want to see outside directors as chairmen of the board because they do not trust CEOs.

Several days before Wisconsin resubmitted its proposal for the 1990 proxy season, Sigler announced the sale of $300 million in convertible preferred stock to Warren Buffett's Berkshire Hathaway, a move widely interpreted as an attempt to place a large block of shares in friendly hands to prevent a hostile takeover. The second time around, Wisconsin's proposal triumphed, again in the face of management opposition. Sigler says that he and the board will most likely put the pill to a vote. Says Pat Lipton, the Wisconsin Investment Board head: "The vote has brought a tremendous focus on that company. It puts the ball very clearly in management's court."

continued

More than a few institutional investors echo Lipton's belief and doubt that Buffett offers Sigler insurance against being ousted. Says one: "Buffett doesn't stop a tender. If someone comes in with a $40 bid, he's going to make management respond to the bid. He's an economic animal."

Institutional activism is still evolving, likely to grow and adapt in coming years. A few changes seem certain:

■ **Institutions will become more sophisticated.** Pension funds typically haven't the foggiest idea about the fundamentals of most of the businesses they own. That is because so many of them "index"—they simply buy stocks in proportion to their relative weights in a major market index like, say, the Standard & Poor's 500. Besides, giant pension funds must diversify so widely that they can't possibly study the basics of all their stocks. That calls into question their ability to behave like proper owners—knowledgeable and patient types who can have a stabilizing effect on corporations trying to sail true courses in rough weather.

It is beginning to dawn on them that they had better bone up on some of their larger holdings if they want respectful treatment by management. That is why many institutions are intensifying their monitoring of companies. Calpers and others are fine-tuning their already considerable computer databases and relying more on outside stock analysts to measure how their companies are doing. They are looking more closely at companies' returns on equity and capital allocation decisions.

IN THEIR GRIP: COMPANIES WHOSE SHARES ARE HEAVILY OWNED BY INSTITUTIONS

	Percent of equity institutionally held
CNA Financial	**96%**
Capital Cities/ABC	**89%**
Cigna	**85%**
Lotus Development	**82%**
Southwest Airlines	**81%**
Bausch & Lomb	**80%**
Whirlpool	**80%**
Circuit City Stores	**79%**
Cross & Trecker	**78%**
Dayton Hudson	**78%**
Cray Research	**77%**
Intel	**77%**
Reynolds Metals	**77%**
Geico	**77%**
Polaroid	**77%**
James River	**76%**
Deere	**76%**
Chase Manhattan	**75%**
CBS	**75%**
Aluminum Co. of America	**74%**

SOURCE: VICKERS STOCK RESEARCH

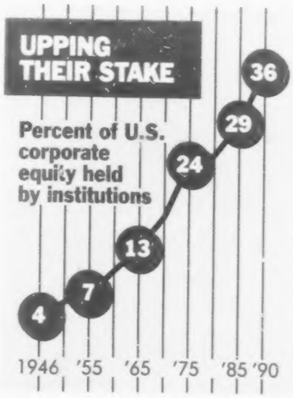
■ **New proxy rules may give institutions more clout.** Encouraged by institutional investors, the SEC has announced a major review of the proxy process. The pension funds contend that until proxy rules are substantially revised, the process will remain an uncertain lever of control to be used against unresponsive managers. They want to see confidential voting with independent tabulation in proxy contests to minimize the possibility of management's pressuring shareholders to vote for its plank. This would probably involve some independent intermediary conducting the vote. Today, as every shareholder who has ever signed a proxy card is aware, management knows how each shareholder votes. It does the counting as well.

More important, institutions are lobbying for an end to the longstanding pro-management rule that they get SEC clearance before talking with more than ten other shareholders, no matter how informal the communication might be. In principle they object to this limitation on their free speech. More practically, they want easier communication among shareholders so they can more effectively pressure management.

Money manager LeBaron has dared to vote against management.

■ **Back-channel chats will be common.** While proxy fights attract the press's attention, institutions also hold private talks with management to resolve conflicts before they erupt into nasty disputes. Expect more of this. It makes sense because for all their disagreements, management and shareholders have much more in common than they have differences.

■ **Institutions will press for more independent directors.** Most pension funds see the board of directors as the missing link in the chain of managerial accountability. Too often, the directors are in management's hip pocket. That is why institutions will keep pressing for truly independent boards. Many fund managers want to see outside directors installed as chairmen of the board because they do not trust CEOs to serve the shareholders first and themselves second.



SOURCE: FEDERAL RESERVE BOARD

If you're a shareholder, the institutions' new role may be something to cheer about. If you're an executive, you may not be sure what to think of it (see CEO Poll). Should pension fund managers be in a position to give some orders to professional executives? Well, why not? If you represent the owners, isn't that your right, even at times your obligation? Institutional activism comes down to one of the basic business issues of our age: the role of shareholders in vast, publicly owned companies. In addition to the movement's many other effects, it should bring that important issue to a head. ■

TWO CHEERS FOR PUSHY INVESTORS

America's top executives say newly active institutional shareholders make managing tougher. But even the most vocal are welcome—if they stay for the long haul.

■ *by Terence P. Paré*

LIKE SO MANY Greta Garbos, long-silent institutional investors are making a splash when they finally speak (see preceding two articles). But what they're saying sharply divides the CEOs of America's largest corporations. While many bosses claim to be willing and even eager to hear out their biggest shareholders, other chiefs, Garbo-like in their own way, want to be left alone.

CEOs are more likely than not to say that substantial ownership by institutions makes a company *less* stable. While most report that their own companies' institutional shareholders have not grown more active, few dispute that large investors have far more to say now than in the past about running the corporations they own.

Why would any CEO welcome more muscle flexing by these 900-pound gorillas? Those who deem the phenomenon a good thing say most often that active institutional investors give managers a chance to communicate their strategies to a few interested, influential holders, rather than trying to send a message to thousands of individuals. Many other chiefs abhor the volubility of institutions. The commonest complaint: Fund managers push too hard for short-term results, making long-range planning difficult if not impossible. Yet most CEOs admit that they evaluate their own pension funds on a short-term basis.

Q **Do you think that, on the whole, significant institutional ownership increases or decreases a company's stability?**

A

Decreases	**50%**
Increases	**24%**
No effect	**18%**
Does not apply	**12%**
Not sure	**5%**

Totals over 100% because of multiple responses.

Q **Which institutions do you consider the most activist shareholders?**

A

State and public pension funds	**57%**
Mutual funds	**14%**
Teachers' funds	**12%**
Insurance companies	**8%**
Church and environmental groups	**4%**
Other	**19%**
Don't know	**19%**

Totals over 100% because of multiple responses.

These are among the results of the FORTUNE 500 CEO Poll of 200 chief executives of FORTUNE 500 and Service 500 companies. It was conducted by Clark Martire & Bartolomeo, a public opinion research firm, between June 5 and June 16.

Having major institutional owners makes the job of keeping the corporate ship on an even keel harder, say bosses. Exactly 50% agree that significant ownership by institutions decreases a company's stability. When an institution decides to sell, the action may hammer the stock price simply because the number of shares put on the block is so large. Often other big shareholders compound the effect. Says Richard H. Deihl of H.F. Ahmanson, the large, healthy California thrift: "If one institution bolts, several others may follow because as professional investors, they have access to the same high-quality information."

Activism is clearly on the rise. Led by public pension funds, cited by 57% of CEOs as the most energetic of institutional investors, more big shareholders are pounding on the gates like the shaggiest of barbarians and demanding to be heard. An even 40% of CEOs say institutions that own stock in their companies have become more active lately, and that proportion seems sure to increase.

CEOs see a bellwether in actions like that of the California Public Employees Retirement System pension fund, which holds about seven million shares of General Motors (1% of the total). Calpers made headlines when it demanded a voice in the selection of GM's next chairman. Eugene Nugent of Pentair, a St. Paul forest products company, says, "We're in the early stages of the institutional investors beginning to perceive themselves as a super-board of directors."

"If activism gets to the point where investors form networks, it could be very bad."

RAND V. ARASKOG
Chairman and CEO
ITT

The institutions are pushing the Securities and Exchange Commission for changes that would allow them even more power. The SEC is considering a proposal to loosen the restrictions of Rule 14a-2(b)(1), which permits only a small number of shareholders to solicit proxies without making their intentions public. The change would make it easier for large holders of a company's stock to plan strategies for proxy fights. That worries Rand V. Araskog of ITT: "If activism gets to the point where investors form networks, it could be very bad. The Michael Milken thing showed what networking could do."

But many CEOs treasure the institutions'

REPORTER ASSOCIATE *Sandra L. Kirsch*

two cents' worth. Fully 43% of chiefs say the growing activism is good on the whole. The benefit most often cited: improved communication. Keeping up the conversation with shareholders makes long-term planning easier, says George V. Grune of the Reader's Digest Association: "If investors talk regularly with senior executives, they are more likely to understand the company's long-term strategy."

Other executives noted that, for reasons of self-interest, managers had *better* communicate with major institutional holders. Says Richard Lehmann of Valley National, a Phoenix banking company: "Institutional investors can have a lot of money invested in a company. If there is no communication, eventually they will move their money elsewhere."

Nearly as important a benefit of active institutional owners, say 17% of CEOs, is that sharp-eyed and quick-tongued money managers help keep management accountable to shareholders. R. A. Bernstein of Western Publishing volunteers one case in point: "Take Roger Smith getting a doubling of his pension. He should have been tarred and feathered instead of rewarded." No, there is no shortage of reasons for big investors to make themselves heard, according to Golden West Financial's Marion O. Sandler: "Corporate democracy, with its perks, is a fiction, and corporations are generally not run for the benefit of the stockholders. Investors have a right to expect performance, not the perpetuation of corporate privilege."

Q **Have the institutions that own stock in your company taken a more active role in the past few years?**

A

Yes	**40%**
No	**51%**
Not sure/doesn't apply	**9%**

Q **Does your company evaluate the performance of its pension fund managers on a quarterly basis, more frequently, or less frequently?**

A

Quarterly	**59%**
More frequently	**4%**
Less frequently	**32%**
Not sure/doesn't apply	**5%**

"If investors talk with executives, they are more likely to understand long-term strategy."

GEORGE V. GRUNE
Chairman and CEO
Reader's Digest Association

The 34% of bosses who are weary of interference by institutional shareholders cite the short-term focus of money managers as the No. 1 reason. W. R. Wilson of Lukens, the steelmaker in Coatesville, Pennsylvania, says, "Institutions don't have much loyalty to companies. They'll sell out to any guy who will give them a profit so that they can beat their peers. That's their job."

Many bosses see the interests of top executives and of institutional investors as fundamentally at odds. Corporate managers must look far ahead, but the primary responsibility of pension fund managers is a fiduciary one to their pensioners. Because of this inherent conflict, says Deihl, "I don't approve of ownership getting involved in management."

Particularly irksome for 9% of CEOs is that institutional investors often seem to pursue private, nonbusiness agendas. Says John Burns of Vista Chemical: "Institutional investors from political groups like public employee pension funds are imposing political considerations on management. For example, it can only be deduced that business performance will be hurt by pension managers' biases about South Africa." John P. Hayes of National Gypsum concurs: "I don't think the role of the institutional investor is being a social activist."

Normally a decisive group, the CEOs include many who will not point thumbs up or down on the issue of institutional activism. Says Dale Johnson of SPX, an automotive parts and equipment company in Muskegon, Michigan: "I think the jury is still out. There is potential to go either way, and it's too early to tell." Fully 10% concurred, saying they were not sure whether the new forthrightness of institutions was good or bad. For William Goessel of Harnischfeger Industries, along with 11% of bosses, the jury is in but hung: The new activism is good *and* bad. As Goessel says, "Companies can't just sit and retain the status quo. There has to be some activity and churning. But in some cases investment policies are just lousy because they are too short term."

There's that complaint again. And why would pension funds, among others, take a short-term view? CEOs readily admit that they monitor the performance of their own companies' pension funds closely, with 59% saying they check their money managers' performance every quarter. Cynics are quick to point to the apparent hypocrisy. But looking doesn't necessarily imply touching, bosses say. The chiefs pay attention but generally leave fund managers alone—just as funds used to leave chief executives alone. Question is, how long before that rule, too, is broken? **F**

"I don't approve of ownership getting involved in management."

RICHARD H. DEIHL
Chairman and CEO
H.F. Ahmanson & Co.

Q **On the whole, is the growing activism of institutional investors good or bad? Why do you say that?**

A

Good		**43%**
Provides better communication between shareholders and management	**20%**	
Holds management accountable	**17%**	
Helps management take a longer view	**5%**	
Other	**6%**	
Bad		**34%**
Focuses too much on short term	**19%**	
Is too concerned with social policy	**9%**	
Disregards best interests of company	**7%**	
Other		**7%**
Both		**11%**
Neither		**2%**
Not sure		**10%**

Totals over 100% because of multiple responses.

MARKETS OF THE WORLD UNITE

THE WORLD'S capitalist economies are marching into the 1990s on an eighth consecutive year of growth, picking up converts from Prague to Managua on the way. Charts and tables on the following pages tell the tale of the past and forecast the future—from interest rates and unemployment to the flow of goods and capital. (Except as noted, the data and forecasts are from the DRI/McGraw-Hill economic consulting firm.)

The pace of the world expansion slowed to about 3% in 1989, down from 4% in 1988, and most economists expect it to moderate further this year. But the newcomers will help keep the party going. Economic activity in the coming decade promises to be ever more decentralized—and ever more integrated by flows of trade, capital, people, and ideas.

Will the world be able to finance all of its new ambitions? Claims on capital appear to be growing faster than savings. But, says Robert Hormats, vice chairman of Goldman Sachs International: "Low savings and high demand can be an incentive to use capital more efficiently."

Companies from Kansas to Kyoto are lining up to take advantage of the big new market in the big new Europe, which is enjoying a rush of economic activity unthinkable a few years ago. Real fixed investment in West Germany should go up by almost 9% in 1990, four times as fast as in the U.S. Reunification of the two Germanies will put pressure on prices, but the fiscally conservative West Germans should handle that with grace. Spain and Portugal, the newest European Community members, should also gather momentum as they attract more investment.

Asia's Little Dragons, the darlings of the 1980s—South Korea, Taiwan, Hong Kong, and Singapore—have growing pains. With wealth come higher labor costs and inflation. South Korea and Taiwan are squirming as they adjust to slower expansion—yearly increases of merely 6% or 7%, vs. the 11% to 12% they have been used to. Their neighbors to the south—Malaysia, Indonesia, and Thailand—also remain in high gear, fueled by exports and a rising tide of foreign investment, mostly Japanese.

As Japan's consumers learn to spend their way to a standard of living comparable to their nation's wealth, business investment is reaching eye-popping rates—for example, a 35.3% increase in spending for steel this year, 33% for services. Japan's trade surplus shrank 28% last year, but the export juggernaut will continue.

Barring unexpected disasters—currency upheavals, oil price spikes—the world financial system looks reassuringly resilient after shrugging off Japan's stock market plunge. If countries can temper their squabbling over trade and tend to their own economies, everyone will have room to grow in the global community of the Nineties. **–Shelley Neumeier**

IN THIS SECTION:

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- **THE TOP 25 COUNTRIES 104**
- **SPREADING INVESTMENTS 108**
- **STOCK MARKET POWER 112**
- **ESCAPING THE PAST 114**
- **SHIFTING TRADE SHARES 116**
- **A SNAPSHOT OF PRICES AND PAY 120**

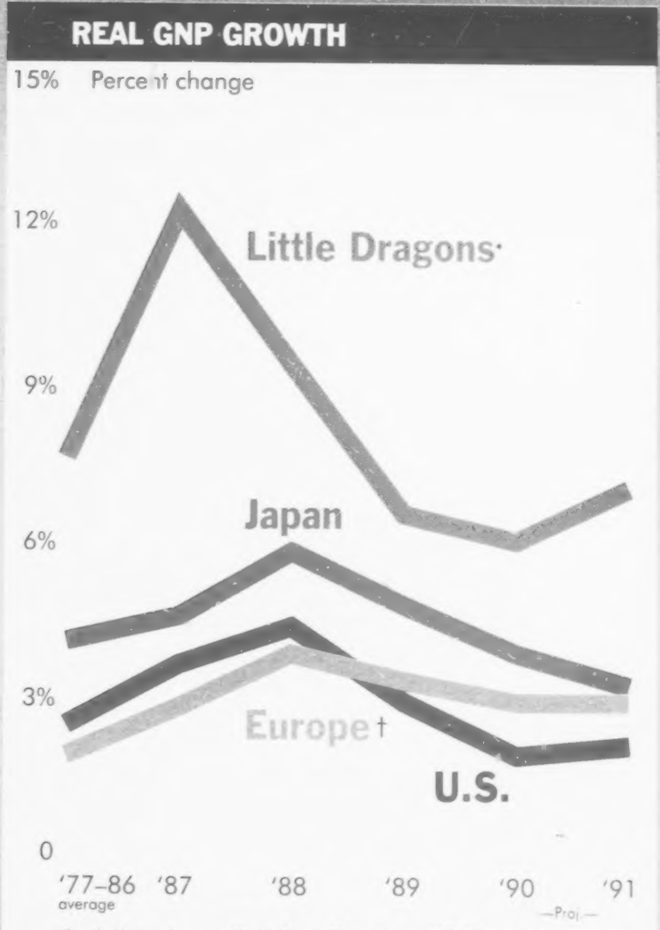
ILLUSTRATIONS BY LINDA ECKSTEIN

HOW THEY'RE DOING

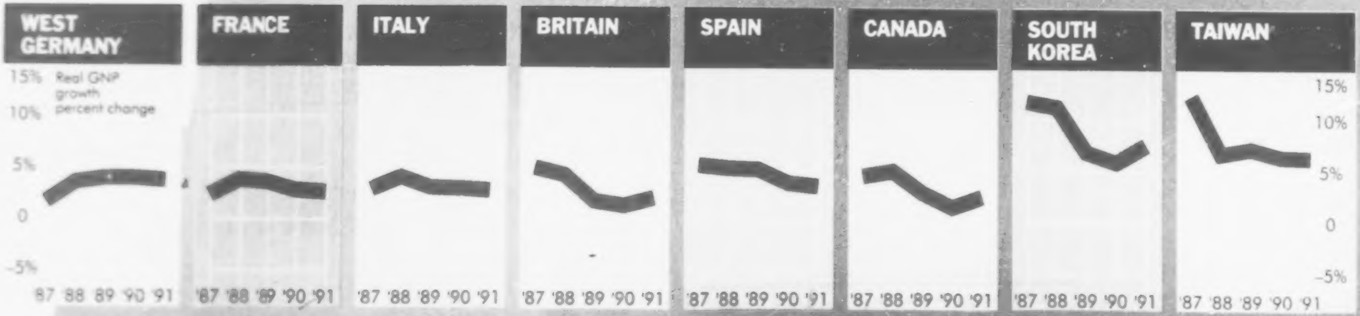
EASING INTO THE NINETIES

The global expansion has shifted into low gear, particularly in the U.S., Britain, and Canada. Like most economists, DRI expects strong demand to keep growth slightly higher in Japan and Europe. The Little Dragons still move faster than the pack.

REAL GNP GROWTH

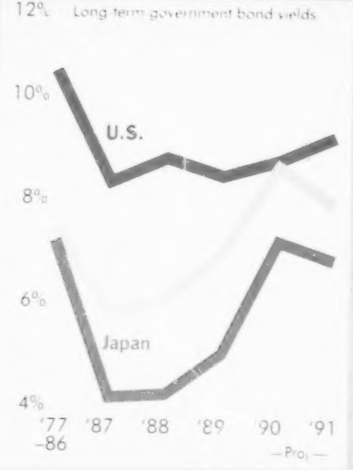


*South Korea, Taiwan, Hong Kong, Singapore. †12 EC countries.



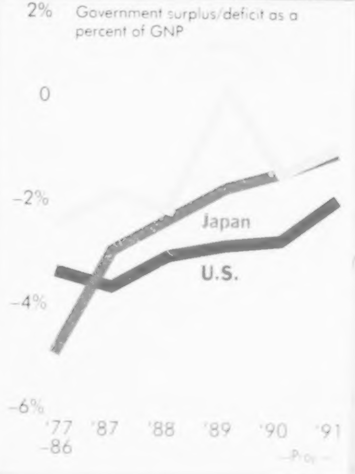
ALL FIGURES PROVIDED BY DRI/MCGRAW HILL UNLESS OTHERWISE NOTED

INTEREST RATES



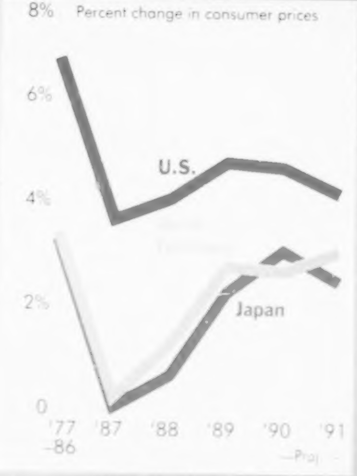
After moving closer to U.S. levels, interest rates in Japan and West Germany will ease. Increasing demands on the global capital pool may keep rates generally up for a while.

BUDGETS



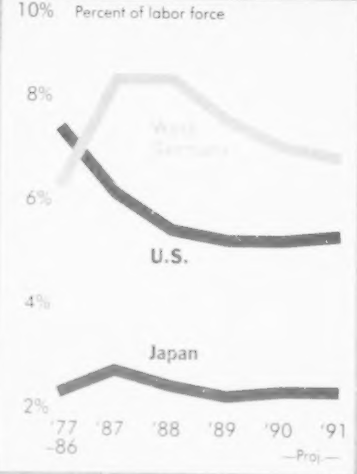
[illegible] [illegible]'s [illegible] surplus will [illegible] [illegible] reunification Germany. [illegible] steady progress in the U.S. will accelerate.

INFLATION



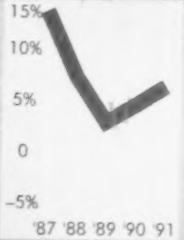
Slower growth will cool inflation in Japan, but reunification will lift it in Germany. The U.S. rate could rise more than expected.

UNEMPLOYMENT

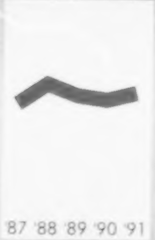


Even with new workers from the East, Germany's rate is dropping. Without immigration, Japan's labor market will remain tight.

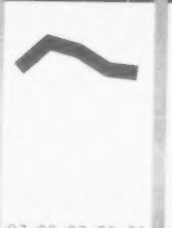
HONG KONG



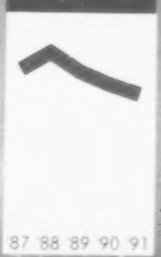
PHILIPPINES



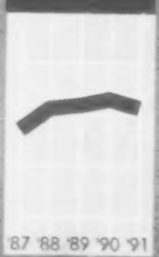
THAILAND



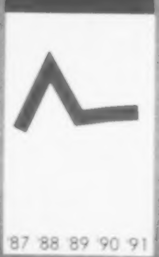
SINGAPORE



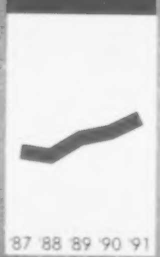
INDONESIA



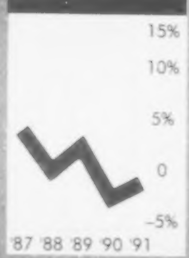
INDIA



MEXICO



BRAZIL



THE ECONOMY

THE TOP 25 COUNTRIES

RANKED BY BUYING POWER

	PER CAPITA GDP adjusted for purchasing power U.S. dollars, 1987	GDP in billions of U.S dollars 1989	ANNUAL GROWTH real GDP 1984-89	POPULATION in millions 1989
United States	$17,615	$5,234.0	3.45%	249.0
Canada	$16,375	$547.8	3.86%	26.2
Norway	$15,940	$90.7	2.01%	4.2
Switzerland	$15,403	$176.6	2.71%	6.7
Luxembourg	$15,247	$6.6	3.55%	0.4
Denmark	$15,119	$104.3	0.76%	5.1
West Germany	$14,730	$1,203.0	2.91%	61.6
France	$13,961	$957.4	3.06%	56.1
Hong Kong	$13,906	$61.5	8.78%	5.7
Kuwait	$13,843	$22.4	5.43%	2.1
Sweden	$13,780	$185.0	1.80%	8.5
Iceland	$13,324	$5.2[1]	2.93%[1]	0.3
Belgium	$13,140	$151.1	3.34%	9.9
Japan	$13,135	$2,834.0	4.43%	123.0
Finland	$12,795	$112.2	3.57%	5.0
Singapore	$12,790	$28.4	7.86%	2.7
Netherlands	$12,661	$221.5	2.13%	14.9
Austria	$12,386	$125.9	2.77%	7.6
Britain	$12,270	$833.2	3.88%	57.1
United Arab Emirates	$12,191	$23.8[2]	4.08%[3]	1.7
Australia	$11,782	$280.8	3.44%	16.8
Bahrain	$11,142	$0.5[2]	1.75%[3]	0.5
Italy	$10,682	$866.1	3.22%	57.5
New Zealand	$10,541	$40.3	0.19%	3.4
Israel	$9,182	$40.8[4]	3.55%[4]	4.5

[1] Provisional. [2] 1988. [3] 1983-88. [4] Estimate.

SOURCES: PENN WORLD TABLE, IMF, DRI

THE WEALTH OF NATIONS

Money is worth only what it can buy, and it can buy a lot more in Tulsa than in Tokyo. Countries here are ranked by per capita gross domestic product adjusted to reflect what their consumers can afford. By this yardstick such countries as Japan and Britain—powerhouses in terms of total output—tumble down the list, while smaller ones with relatively high living standards like Hong Kong and Norway move up.

continued

SPREADING INVESTMENTS

Though much of the world's investment money sloshes around among the major countries of the Organization for Economic Cooperation and Development, more players jump into the pool almost daily. Everybody has a deal to tout. Thailand, Malaysia, and Indonesia offer cheap, skilled labor to Japanese, Taiwanese, and even South Koreans. India gives foreigners a warmer welcome into its huge but still restrictive economy. Mexico promises a new market-oriented environment. Eastern Europe also holds forth the lure of getting in on the ground floor, with the bonus of participating in the triumph of an ideology.

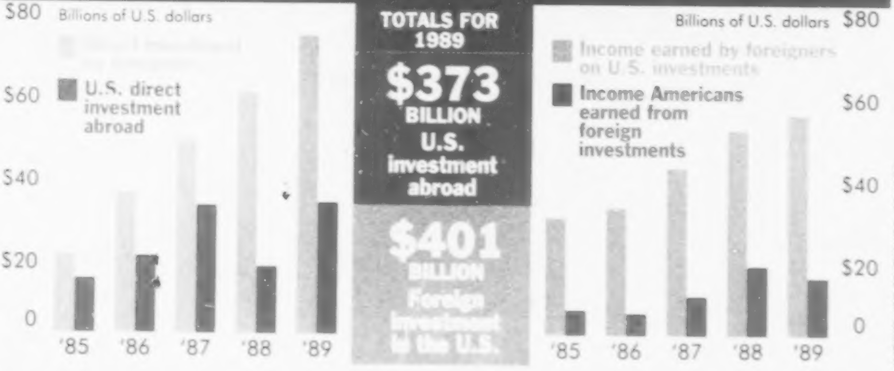
The biggest recipient is not celebrating but agonizing over the "Selling of America." By the end of last year, cumulative foreign direct investment in the U.S. totaled $401 billion, outpacing U.S. investment abroad by over $27 billion. The hand wringers may find solace in the first quarter's figures: The inflow of foreign capital dropped markedly. At the same time, U.S. companies are increasing their investments in Europe and East Asia. U.S. foreign direct investment almost doubled in 1989. But domestic capital expenditures remain sluggish at about 10% of GNP. Japan, by contrast, is spending heavily both at home and abroad.

DIRECT INVESTMENT FLOWS IN THE OECD

Top capital exporters	Cumulative 1961-88	1988	Top capital importers	Cumulative 1961-88	1988
United States	$302.4 billion	$20.4 billion	United States	$276.2 billion	$42.2 billion
Britain	$183.0 billion	$26.6 billion	Britain	$98.8 billion	$12.7 billion
Japan	$113.2 billion	$34.2 billion	France	$43.8 billion	$6.7 billion
West Germany	$75.0 billion	$10.4 billion	Australia	$37.0 billion	$4.8 billion
France	$57.1 billion	$12.8 billion	Netherlands	$30.9 billion	$3.2 billion

SOURCE: OECD

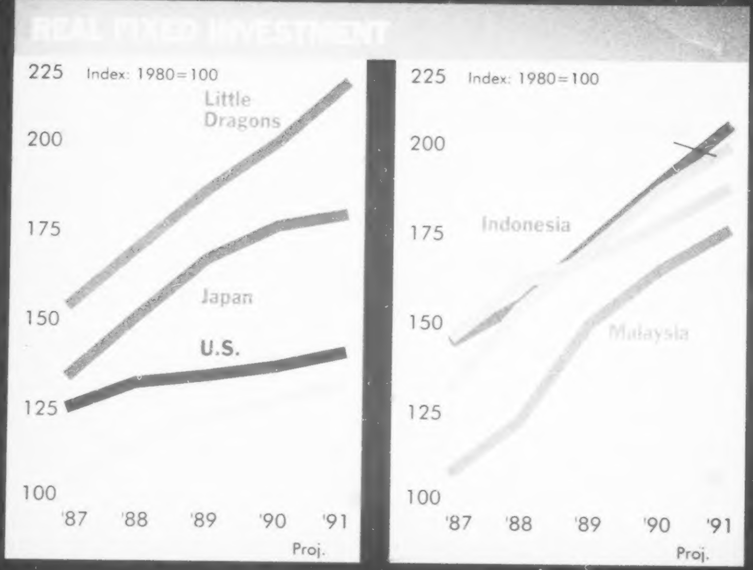
U.S. DIRECT INVESTMENT FLOWS



SOURCE: COMMERCE DEPARTMENT

PLOWING THE PROFIT BACK IN

Countries that save more—like Japan, the nations of Europe, and Asia's Little Dragons—have more to invest. Personal savings in the U.S. have regained much of the ground lost in the mid-1980s, but government dissaving, meaning the deficit, reduces the national rate.

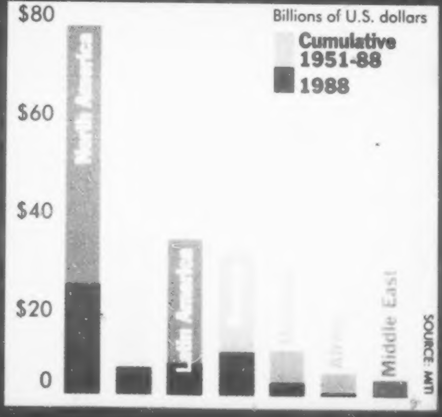


	FIXED INVESTMENT AS A PERCENT OF GDP Five-year average	SAVINGS AS A PERCENT OF GDP 1989, gross
Japan	35.6%	34.4%
Little Dragons	29.2%	47.2%
Malaysia	28.4%	35.0%
Thailand	23.5%	30.1%
Europe	21.9%	22.3%
Indonesia	21.2%	21.5%
India	20.0%	32.2%
United States	17.0%	13.9%

WHERE THE JAPANESE ARE PUTTING THEIR MONEY

A high savings rate and sustained growth have turned Japan into one of the world's leading investors. A large share of the money goes to the U.S., attracted by high returns, a stable government, and an open economy. The Japanese are stepping up investment in neighboring Asian nations as well, buying real estate, acquiring companies, and building factories. Europe is next.

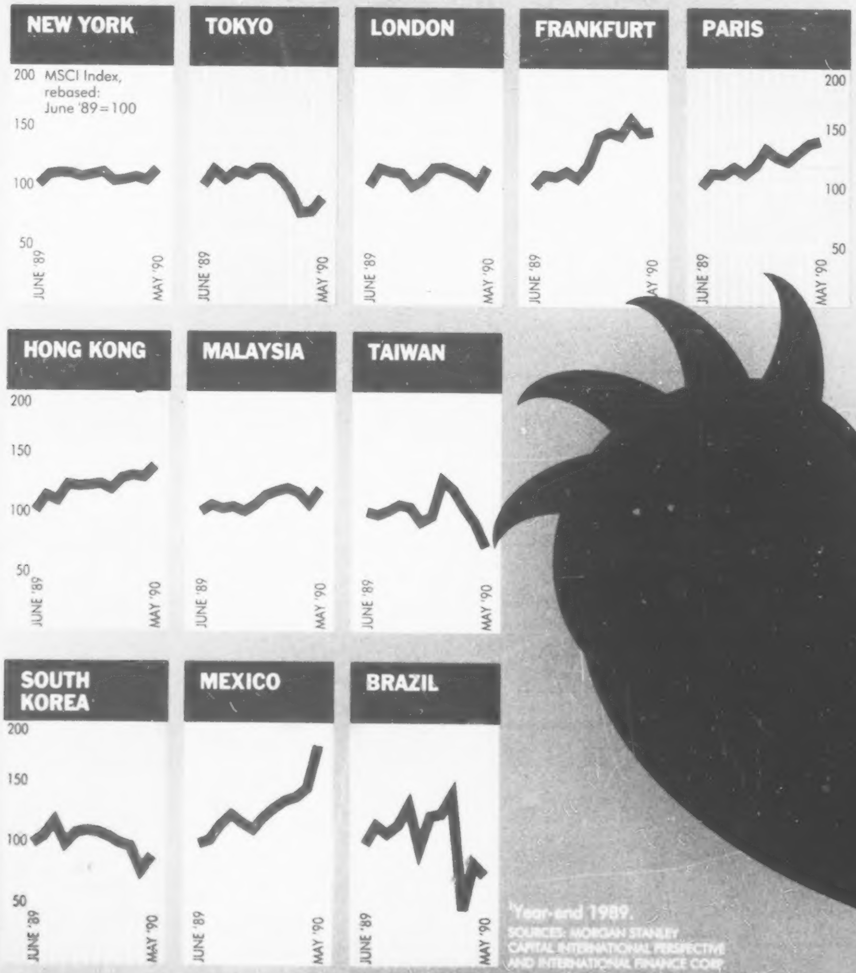
DIRECT INVESTMENT ABROAD



SOURCE: MITI

STOCK MARKET [illegible]

DEVELOPED MARKETS	MARKET CAPITALIZATION June 1990 in billions	ANNUAL GROWTH 1984-89
Japan	$3,428.0	46.80%
United States	$3,067.1	13.48%
Britain	$838.1	27.77%
West Germany	$368.7	36.03%
France	$364.8	54.75%
Hong Kong	$86.9	26.84%
EMERGING MARKETS		
Taiwan	$155.4	88.77%
South Korea	$122.7	86.64%
Malaysia	$46.5	15.48%
Mexico	$41.2	59.32%
Brazil	$26.8	8.88%



[1] Year-end 1989.

SOURCES: MORGAN STANLEY CAPITAL INTERNATIONAL PERSPECTIVE AND INTERNATIONAL FINANCE CORP.

ESCAPING THE PAST

LATIN AMERICA

After a decade of hyperinflation, debt, and poverty, Latin America has started to rumble with change. One incentive: revolutions on the other side of the globe. So far, reforms in Mexico and Chile have yielded the most results. Mexico's President Carlos Salinas de Gortari, says Morgan Stanley senior economist Robert Gay, "was competing in a free-for-all for capital and saw that Mexico was going to be ignored." A big gush of foreign investment is next on Salinas's wish list, and if it comes, Mexico indeed has a shot at becoming what Douglas Campbell, an investment banker who specializes in Mexican securities, calls "a Korea on the U.S. doorstep." Chile is reaping the rewards of being first to adopt tough-minded free-market policies and to stick with them. New leaders in Brazil and Argentina have also slapped their economies with ambitious plans, free market in flavor, but there the jury will be out for a long time.

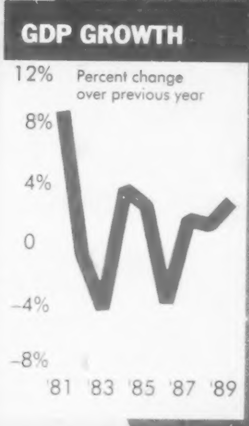
GDP PER CAPITA
1990 as a % of 1980

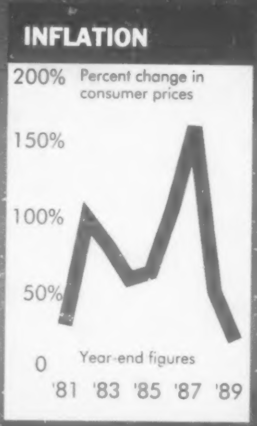
Argentina	36.4
Brazil	98.4
Peru	105.3
Venezuela	55.6

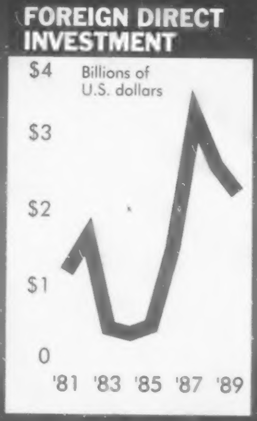
TOTAL DEBT
1990 as a % of 1980

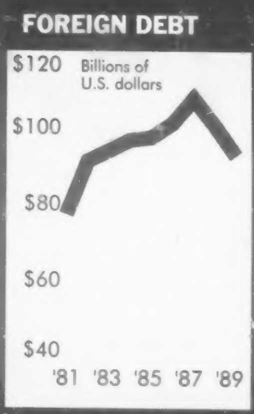
Argentina	206.7
Brazil	182.4
Peru	218.8
Venezuela	135.8

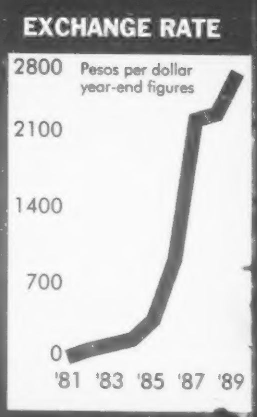
MEXICO


GDP GROWTH

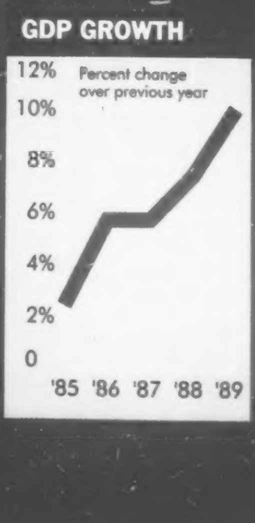

INFLATION

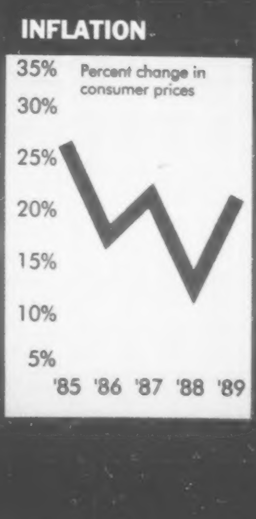

FOREIGN DIRECT INVESTMENT

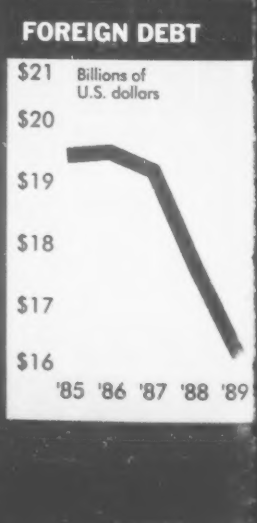

FOREIGN DEBT


EXCHANGE RATE

CHILE


GDP GROWTH

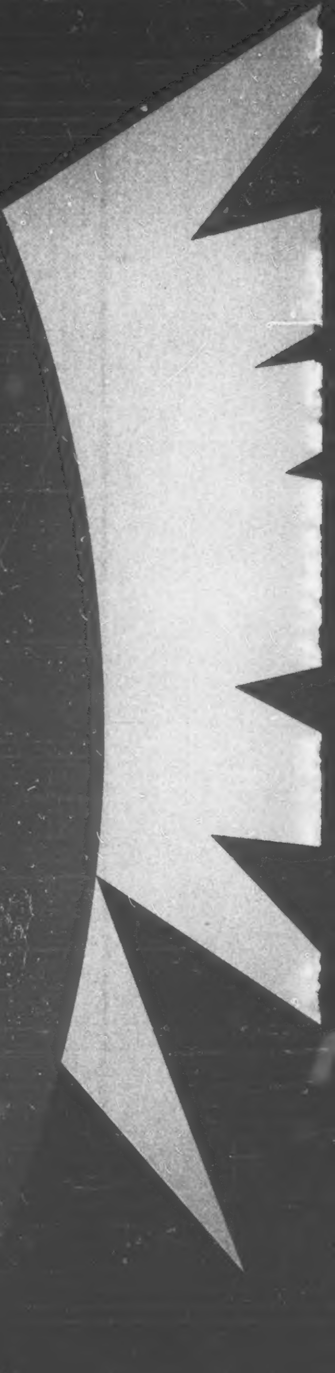

INFLATION


FOREIGN DEBT

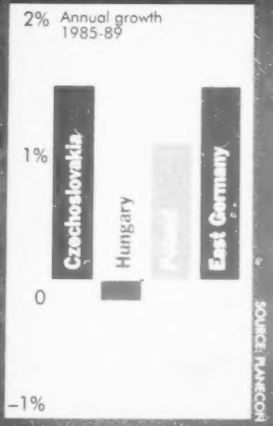
THE EX-COMMUNIST BLOC

The formerly Communist countries of Eastern Europe are starting to feel the sting of their new skin as they shed their centrally planned pasts and metamorphose into market economies. "There's going to be pain," says Klaus Friedrich of the Institute of International Finance. "They have to disintegrate the system first to reintegrate it along market lines." One big unanswered question is how much Western capital their economies can absorb, and how quickly.

East Germany, with the warm embrace of its deep-pocketed sibling in the West, will have the cushiest transition but can still be expected to get hit hard with unemployment and inflation. Czechoslovakia, saddled with archaic heavy industry, nonetheless has the next-best prospects. Other countries will look on anxiously as the mavericks of reform, Poland and Hungary, take their hits—slowing output, high inflation, growing unemployment, and social unrest. With tenacity and guts, though, reform-minded governments stand to fare best in the long term.

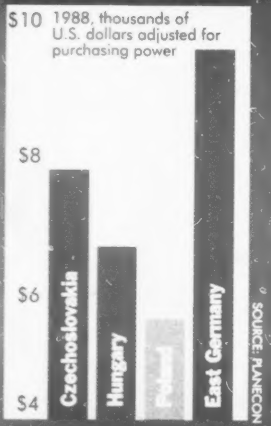


GDP GROWTH



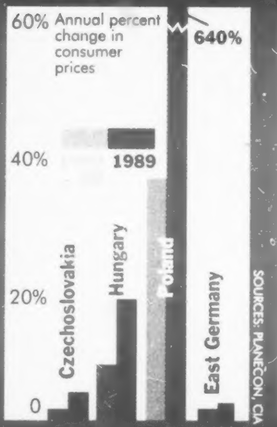
SOURCE: PLANECON

PER CAPITA GDP



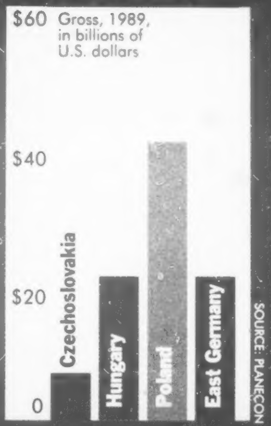
SOURCE: PLANECON

INFLATION



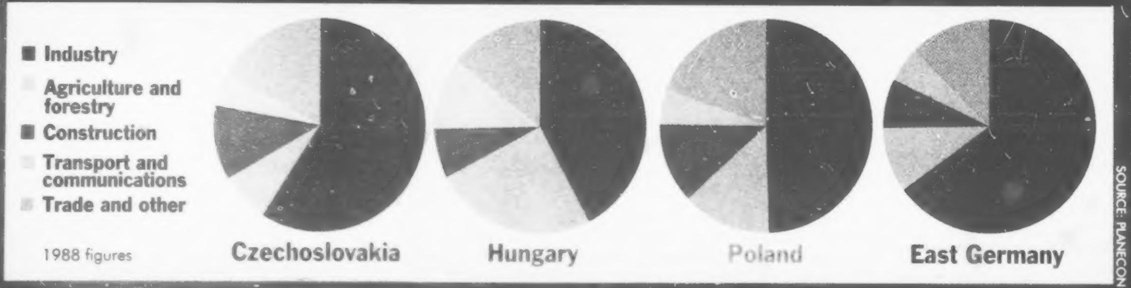
SOURCES: PLANECON, CIA

FOREIGN DEBT



SOURCE: PLANECON

ECONOMIES BY SECTOR



SOURCE: PLANECON

STANDARD OF LIVING

	AUTOMOBILES per 1,000	TELEPHONES per 1,000	TVs per 1,000
Czechoslovakia	173	226	122
Hungary	145	134	275
Poland	105	118	85
East Germany	209	211	119
West Germany	446	641	377

SOURCES: IBRD, OECD, CIA

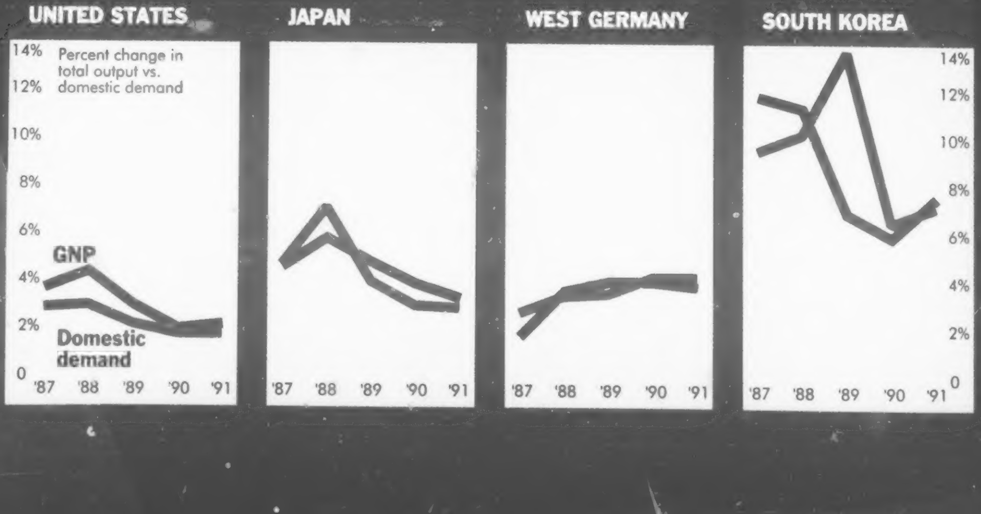
SHIFTING TRADE SHARES

The trade balances that got acutely imbalanced in the 1980s have a chance of moving back into line this decade. Japan's current account surplus fell by 28% in 1989 as exports dropped, imports surged, and manufacturers shifted more production to cheaper locations—including the U.S. Over the past four years, American merchandise exports to Japan have risen 50% faster than those to the rest of the world. With domestic demand strong, the Japanese government found it easy to grease the wheels a bit in hopes of mollifying cantankerous American politicians. U.S.-manufactured exports to the rest of the world continue to grow, and booming global trade in services should tilt the playing field further toward America over the long run. Though the Little Dragons continue to increase their share of the world export market, they are also buying more.

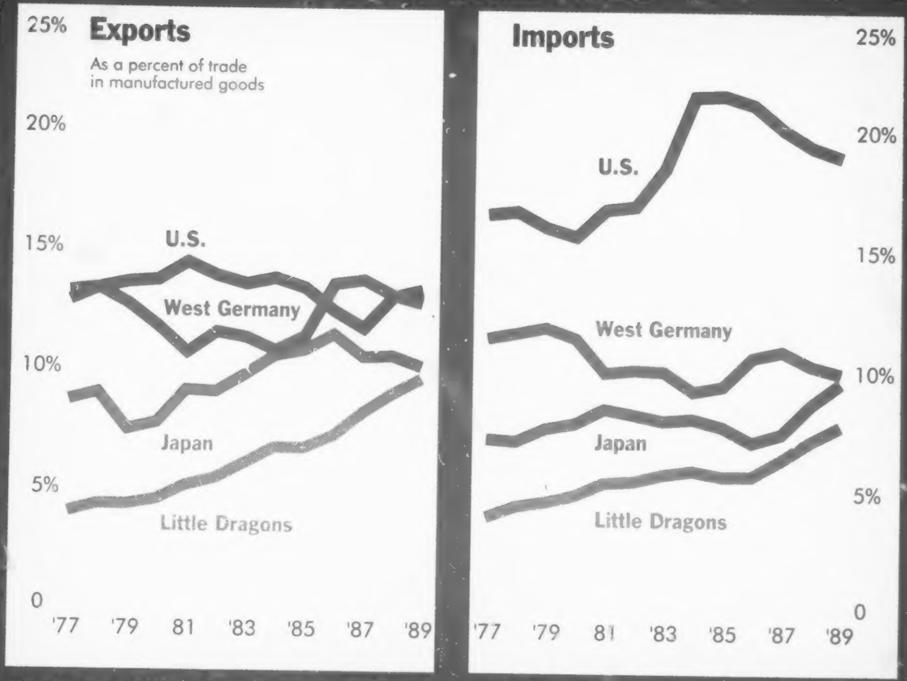
So why isn't everybody smiling? The U.S.'s high deficit with Japan remains a lightning rod for Americans worried about national decline. Angry words flew across the Atlantic too as Europeans and Americans clashed during talks over farm subsidies and textiles. But trade within the three major blocs—Europe, Asia, and North America—is growing along with intercontinental trade and should get another shot in the arm as Europe unites. North America's own little version of 1992, the Free Trade Agreement between Canada and the U.S., is bolstering the already voluminous trade between the neighbors. Mexico would like to join too.

TOTAL OUTPUT VS. DEMAND

Strong domestic demand in Asia and Europe means export opportunities for the U.S. and other countries where the growth of output is outpacing that of consumption.

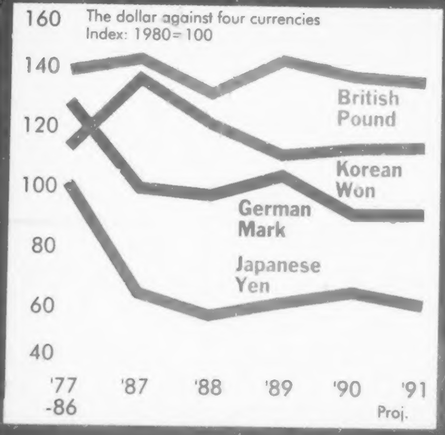


SHARES OF WORLD TRADE



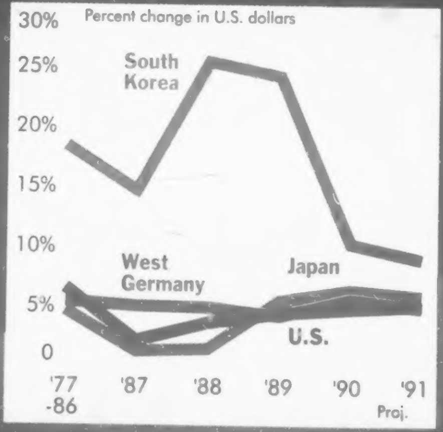
The U.S. and West Germany are playing nip and tuck for leadership in world exports, and the Little Dragons are closing fast on Japan. America's share of imports is shrinking as consumers in Japan and the Little Dragons begin spending their wealth.

THE DOLLAR



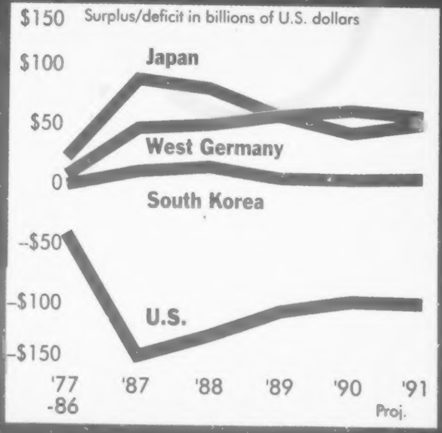
Compared with the gyrations it went through during the Eighties, the dollar is a model of stability these days.

UNIT LABOR COSTS



Growing wage demands will continue to lift costs in South Korea. Germany, Japan, and the U.S. face smaller rises.

CURRENT ACCOUNTS



Trade balances of the major industrial nations are inching toward equilibrium, though the U.S. still has miles to go.

SNAPSHOT OF PRICES AND PAY

		Frankfurt	Hong Kong	London	New York	Paris	Mexico City	Manila	Singapore	Tokyo	Sydney
COSTS	**6-pack Coca-Cola**	$2.89	$2.08	$2.07	$2.55	$3.61	$2.14	$2.85	$2.29	$5.01	$2.47
	Chicken, per lb.	$2.57	$2.06	$2.49	$1.49	$2.75	$1.68	$1.29	$2.17	$3.99	$1.90
	Hairdresser Woman's	$24.52	$18.89	$30.89	$29.94	$24.65	$13.66	$10.65	$16.41	$47.97	$22.83
	Man's shirt Arrow	$44.78	$25.66	$38.66	$34.64	$51.41	$21.88	$32.56	$29.79	$63.95	$34.41
	Tylenol 100 tablets	$15.94	$5.69	$8.52	$5.93	$11.71	$4.59	$13.56	$6.48	$22.16	$7.41
	VCR VHS, internationally compatible	$878.12	$588.69	$620.13	$399.39	$954.12	$740.14	$497.69	$476.17	$951.38	$736.22
	Tune-up Labor only	$90.70	$67.10	$107.06	$54.99	$124.38	$29.16	$14.74	$45.60	$201.96	$62.99
	Paperback Recent best-seller	$10.20	$10.41	$6.85	$5.74	$9.87	$6.17	$5.17	$8.08	$8.58	$8.23
	1 golf ball	$2.55	$2.23	$2.62	$1.56	$3.39	$2.02	$1.99	$2.06	$6.01	$2.41
	Johnnie Walker Red 750 cc	$15.17	$13.74	$16.33	$15.61	$13.07	$12.20	$10.09	$24.04	$21.42	$18.11
	Premium gasoline 1 gallon	$2.59	$2.56	$2.50	$1.30	$3.57	$0.85	$1.10	$2.07	$4.18	$1.92
EARNINGS	**Chief executive** Before-tax annual compensation	$235,000	$153,000	$172,000	$305,000	$188,000	$220,000	$177,000	$170,000	$187,000	$128,000
	Personnel director Before-tax annual compensation	$114,000	$74,000	$85,000	$91,000	$101,000	$90,000	$41,000	$81,000	$89,000	$56,000

SOURCE: ASSOCIATES FOR INTERNATIONAL RESEARCH

SOURCE: WYATT CO.

I'LL TAKE MANHATTAN

CEOs in New York can't complain. They not only earn far more than their counterparts in other cities, but they also pay far less when they want to kick back with a book, hit the links, or slip a flick into an imported VCR. Bargain hunters will want to steer clear of Tokyo and head to Singapore, Manila, or Mexico City, especially when they're buying services.

FORTUNE

FORTUNE'S NEW

GLOBAL

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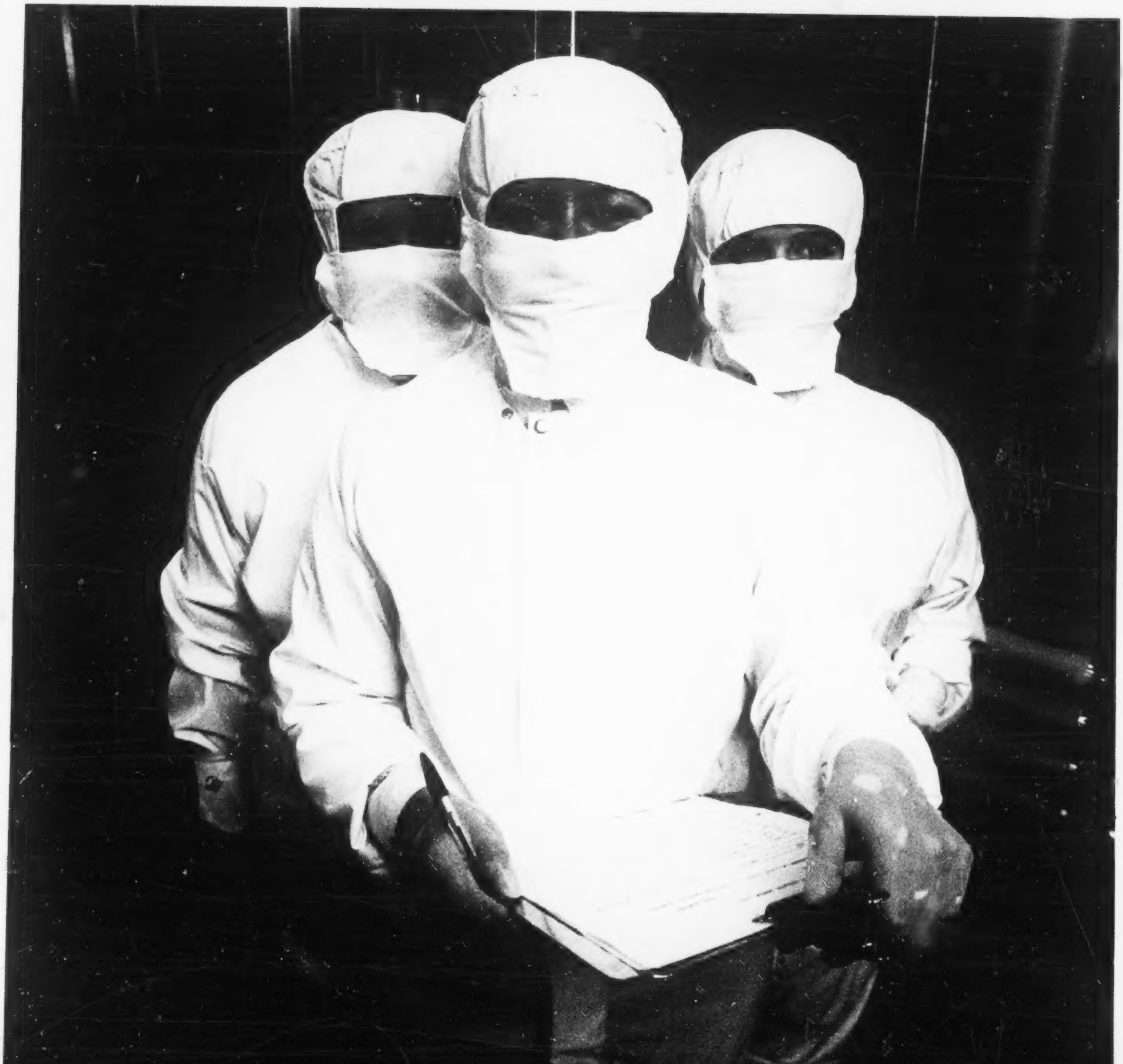
CONSTRUCTION BY NICHOLAS FASCIANO. PHOTOGRAPHY BY ROBERTO BROSAN

THE GLOBAL 500

THE WORLD'S BIGGEST INDUSTRIAL CORPORATIONS

INTRODUCING A NEW FORTUNE LIST



COUNTRIES WITH THE BIGGEST COMPANIES

COUNTRY	COMPANIES ON THE LIST	LARGEST COMPANY
UNITED STATES	167	GENERAL MOTORS
JAPAN	111	TOYOTA MOTOR
BRITAIN	43	BRITISH PETROLEUM
WEST GERMANY	32	DAIMLER-BENZ
FRANCE	29	RENAULT
SWEDEN	15	VOLVO
CANADA	13	CANADIAN PACIFIC
SOUTH KOREA	11	SAMSUNG
AUSTRALIA	10	ELDERS IXL
SWITZERLAND	10	NESTLE

NOW THAT the global village is truly upon us, it looks more like a global industrial park. We live in an expansive new world of economic interconnections where business roars through borders and time zones. To keep up with it, FORTUNE on these pages introduces the Global 500—the largest industrial corporations in the world ranked by sales.

The new list is a combination of the 500 largest industrial companies in the U.S., first published in 1955, and the International 500, which was begun in 1976 and included only companies outside the U.S. In recent years, FORTUNE also produced rankings of the world's top 50 and 100 companies, but this new list has much more data. It cites not only sales and profits, but assets, stockholders' equity, and numbers of employees as well, and also ranks companies by industry groups and by country. The top 50 companies on the new list generated $1.85 trillion in sales, 5% more than in 1988, adjusted for inflation.

The Global 500 offers more than a picture of how the world's biggest companies fared at the end of the decade. It is a snapshot of the final year of the postwar economic order, when countries stuck almost exclusively to their own sides of the Berlin Wall and capitalists had capitalism almost exclusively to themselves.

Well over half the 500's revenues came from petroleum production and refining, automaking, electronics manufacturing, and food processing. Oil companies generated higher revenues and earnings than any other group. Exxon is the biggest oil company, ranking No. 3 on the list behind General Motors and Ford Motor. Royal Dutch/Shell ranks fourth. Petróleos de Venezuela (No. 76), Petrobrás (No. 58) of Brazil, and Pemex (No. 65) of Mexico are all in the top 100.

The U.S. leads all countries, with 167 companies on the list. That's more than Japan, West Germany, and Canada combined. Besides GM, Ford, and Exxon, 32 other U.S. companies were in the top 100. Americans are No. 1 in 14 of the 25 industries on the Global 500, including aerospace (Boeing, No. 45), computers (IBM, No. 5), and electronics (General Electric, No. 7). The main competition in aerospace comes from France, which has four companies, compared with the U.S.'s 11. In computers, the U.S. has ten companies to Japan's three.

Impressive as those numbers are, U.S. dominance is slowly giving way. In 1980, 23 U.S. companies made the top 50, compared with only five Japanese. Now there are 17 American and ten Japanese. Two of the largest corporations, Samsung (No. 20) and Daewoo (No. 47), are South Korean. The trend is particularly noticeable in electronics. Of the 46 companies in the category, the U.S. has 16 and Japan 15. But after GE, five of the top ten are Japanese and the rest are from South Korea, West Germany, the Netherlands, and France.

A CUSTOMER interested in doing business with the world's biggest companies might order clothes from a U.S. firm—the largest apparel maker is Levi Strauss (No. 360)—but the materials could well come from Japan, which has the three top textile makers. Planning a dinner party? Order food and beverages from the U.S. (Philip Morris, No. 14, and PepsiCo, No. 63, lead their categories), but leave the music to Japan (Yamaha, No. 348, is the world's biggest producer of pianos). Thinking of settling down? Build a house with British building materials (Hanson, No. 91) and buy tires for your GM car from a Japanese company (Bridgestone, No. 84).

The most profitable companies were American and British. U.S. industrial firms accounted for 37% of sales of all companies on the list, but 40% of profits. Britain produced 12% of profits—the second best—on just 7% of sales. Surprisingly, the Japanese were relatively weak earners. While they were second to the U.S. in sales, with 20% of the total, they were behind the British in profitability.

Though the empire is long gone, British companies maintained a formidable global presence through exporting. BAT Industries (No. 36) began to sell off its retailing divisions to focus mostly on tobacco. With brands like Kool, Kent, and Lucky Strike, BAT increased cigarette exports by 16%. British Aerospace became Britain's largest exporter of manufactured goods.

Globalization sped ahead, with U.S. and European multinationals buying their way into new markets through mergers, acquisitions, and joint ventures. SmithKline Beckman of the U.S. and Beecham Group of Britain merged to become SmithKline Bee-

Strengthened by a global merger, sterile-area operators help make an antibacterial cream at the new British-American SmithKline Beecham.

PHOTOGRAPH BY JUSTIN LEIGHTON—NETWORK

cham (No. 157), the third-largest pharmaceutical company. CMB Packaging (No. 384) of France, which makes cans and bottles, was created through a merger of France's Carnaud and an arm of Britain's MB group. Nippon Mining (No. 210), a metals and petroleum company, strengthened its drive into electronics by acquiring Gould Inc. of the U.S. Asea Brown Boveri, the Swiss-Swedish maker of heavy electrical equipment, greatly increased its U.S. presence with the acquisition of Combustion Engineering and the electric transmission and distribution divisions of Westinghouse. Ford bought Jaguar, Britain's upscale but troubled carmaker.

Two Japanese companies reported big gains in sales because of acquisitions the year before. Sony (No. 57) had a 64% increase in revenues in its first full year as owner of CBS Records. Strong perfor-

THE BIGGEST COMPANIES BY INDUSTRY

INDUSTRY	COMPANY	COUNTRY	SALES $ millions
AEROSPACE	BOEING	U.S.	$20,276
APPAREL	LEVI STRAUSS ASSOCIATES	U.S.	$3,628
BEVERAGES	PEPSICO	U.S.	$15,420
BUILDING MATERIALS	HANSON	BRITAIN	$11,833
CHEMICALS	E.I. DU PONT DE NEMOURS	U.S.	$35,209
COMPUTERS (INCLUDES OFFICE EQUIPMENT)	IBM	U.S.	$63,438
ELECTRONICS	GENERAL ELECTRIC	U.S.	$55,264
FOOD	PHILIP MORRIS	U.S.	$39,069
FOREST PRODUCTS	INTERNATIONAL PAPER	U.S.	$11,378
FURNITURE	JOHNSON CONTROLS	U.S.	$3,690
INDUSTRIAL AND FARM EQUIPMENT	ASEA BROWN BOVERI	SWITZERLAND	$21,209
METAL PRODUCTS	NKK	JAPAN	$10,926
METALS	IRI	ITALY	$49,077
MINING, CRUDE-OIL PRODUCTION	INI	SPAIN	$15,277
MOTOR VEHICLES AND PARTS	GENERAL MOTORS	U.S.	$126,974
PETROLEUM REFINING	EXXON	U.S.	$86,656
PHARMACEUTICALS	JOHNSON & JOHNSON	U.S.	$9,844
PUBLISHING, PRINTING	DAI NIPPON PRINTING	JAPAN	$7,892
RUBBER AND PLASTICS PRODUCTS	BRIDGESTONE	JAPAN	$12,379
SCIENTIFIC AND PHOTOGRAPHIC EQUIPMENT	EASTMAN KODAK	U.S.	$18,546
SOAPS, COSMETICS	PROCTER & GAMBLE	U.S.	$21,689
TEXTILES	ASAHI CHEMICAL INDUSTRY	JAPAN	$7,992
TOBACCO	BAT INDUSTRIES	BRITAIN	$23,529
TOYS, SPORTING GOODS	YAMAHA	JAPAN	$3,794
TRANSPORTATION EQUIPMENT	KAWASAKI HEAVY INDUSTRIES	JAPAN	$6,906

mances by most of the company's electronics divisions helped too. Bridgestone's sales rose by a third, largely because of the company's 1988 buyout of Firestone, the U.S. tiremaker.

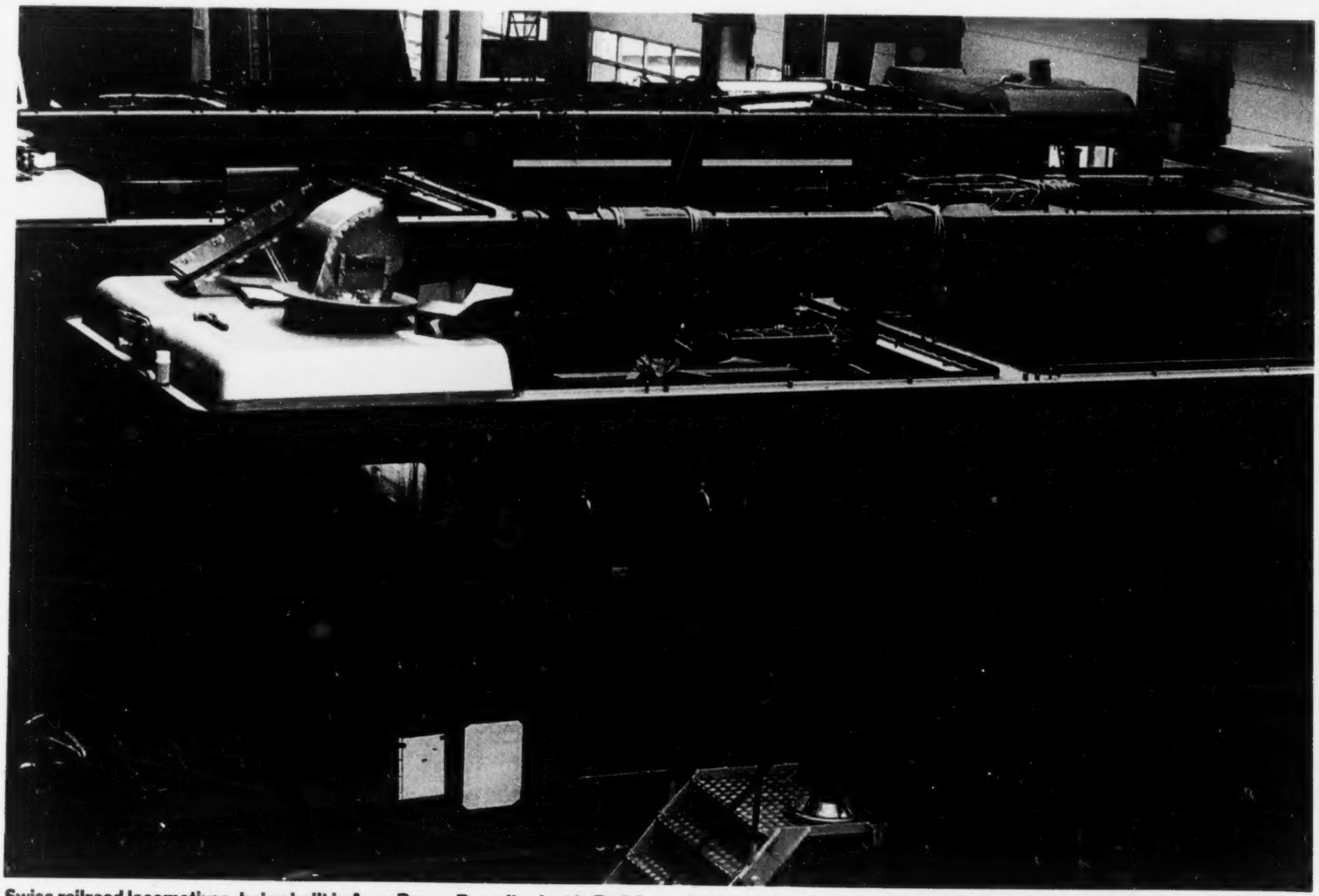
Two Japanese high-tech companies had strong results without major acquisitions. Hitachi, which makes everything from vacuum cleaners to computers, got into the top ten, in the No. 9 position. Fujitsu expanded its personal computer and telecommunications businesses to move into the top 50, at No. 49.

Sales of Nissan Motor (No. 17) jumped 23% to $36 billion. The company had notable success in raising its share of the hot market for high-priced sporty cars, both in Japan and in the U.S. Toyota (No. 6) and Honda (No. 30), riding the same trend at home and abroad, increased their revenues 19% each.

But "car" was not a magic word for all. Volvo had a 7% decline in revenues, partly due to currency fluctuations that weakened its global competitiveness. The Swedish automaker's profits were hurt by increased costs at home. Volkswagen's sales strengthened a bit, but not anywhere near as much as did those of its Japanese competitors.

THE GRANDES DAMES of food companies, No. 18 Unilever, which, though famous for soap, is classified as a food company because the largest portion of its revenue comes from such brands as Lipton Tea and Ragú spaghetti sauce, and Nestlé (No. 26), held their ground. Aggressive Philip Morris (No. 14) and Britain's Grand Metropolitan (No. 73) ate their way up the ranks with a series of acquisitions. Philip Morris, with subsidiaries Kraft and General Foods, had revenue gains of 51%. Grand Met, new owner of Pillsbury and Burger King, raised its sales by 58%.

As the boundaries of business loosen, the worldwide opportunities expand. In 1992 the last of the European Community's internal trade barriers will disappear. The two Germanies are speeding toward unification. Western companies have already begun to invest in the old East bloc—Volkswagen in East Germany, GE in Hungary, McDonald's in the Soviet Union. At some point investment is likely to flow in the other direction. Perhaps early in the 21st century, or sooner, a Czechoslovak company will make FORTUNE's top 100. **–Jung Ah Pak and Sally Solo**



GOTZ GEORG LINZENMEIER—VISUM

Swiss railroad locomotives, being built in Asea Brown Boveri's plant in Zurich, are just part of the company's worldwide heavy electrical equipment business.

1989			SALES	PROFITS		ASSETS		STOCKHOLDERS' EQUITY		EMPLOYEES		INDUSTRY TABLE NUMBER
			$ Millions	$ Millions	Rank	$ Millions	Rank	$ Millions	Rank	Number	Rank	
1	**GENERAL MOTORS**	U.S.	126,974.3	4,224.3	2	173,297.1	1	34,982.5	3	775,100	1	17
2	**FORD MOTOR**	U.S.	96,932.6	3,835.0	4	160,893.3	2	22,727.8	7	366,641	6	17
3	**EXXON**	U.S.	86,656.0	3,510.0	7	83,219.0	5	30,244.0	4	104,000	62	18
4	**ROYAL DUTCH/SHELL GROUP**	BRITAIN/NETHERLANDS	85,527.9	6,482.7	1	91,011.0	4	48,307.5	1	135,000	39	18
5	**INT'L BUSINESS MACHINES**	U.S.	63,438.0	3,758.0	5	77,734.0	6	38,509.0	2	383,220	4	6
6	**TOYOTA MOTOR**[1]	JAPAN	60,443.6	2,631.1	12	49,672.8	10	25,761.0	5	91,790	70	17
7	**GENERAL ELECTRIC**	U.S.	55,264.0	3,939.0	3	128,344.0	3	20,890.0	9	292,000	11	7
8	**MOBIL**	U.S.	50,976.0	1,809.0	20	39,080.0	15	16,274.0	12	67,900	102	18
9	**HITACHI**[2]	JAPAN	50,894.0	1,446.7	33	52,253.2	7	17,184.3	11	274,508	13	7
10	**BRITISH PETROLEUM**	BRITAIN	49,484.4	3,498.8**	8	51,042.4	8	17,412.4	10	119,850	51	18
11	**IRI**	ITALY	49,077.2	1,177.7	38	N.A.		N.A.		416,200	3	15
12	**MATSUSHITA ELECTRIC INDUSTRIAL**[2]	JAPAN	43,086.0	1,664.0	26	48,217.9	11	21,590.1	8	193,088	20	7
13	**DAIMLER-BENZ**	W. GERMANY	40,616.0	3,584.6	6	37,133.5	17	9,710.6	22	368,226	5	17
14	**PHILIP MORRIS**	U.S.	39,069.0	2,946.0	9	38,528.0	16	9,571.0	23	157,000	31	8
15	**FIAT**	ITALY	36,740.8	2,410.8	16	46,355.2	12	12,597.5	17	286,294	12	17
16	**CHRYSLER**	U.S.	36,156.0	359.0	169	51,038.0	9	7,233.0	39	121,947	50	17
17	**NISSAN MOTOR**[2]	JAPAN	36,078.4	889.7	64	35,713.4	19	12,422.3	18	117,330	52	17
18	**UNILEVER**	BRITAIN/NETHERLANDS	35,284.4	1,729.7	24	20,804.4	47	4,441.5	88	300,000	10	8
19	**E.I. DU PONT DE NEMOURS**	U.S.	35,209.0	2,480.0	14	34,715.0	20	15,798.0	13	145,787	35	5
20	**SAMSUNG**	SOUTH KOREA	35,189.1	515.1	119	28,415.6	32	3,561.8	120	176,947	22	7
21	**VOLKSWAGEN**	W. GERMANY	34,746.4	523.2	116	33,661.7	23	6,810.2	41	250,616	15	17
22	**SIEMENS**[3]	W. GERMANY	32,659.6	786.8	71	34,390.5	21	9,531.9	24	365,000	7	7
23	**TEXACO**	U.S.	32,416.0	2,413.0	15	25,636.0	34	9,180.0	25	37,067	210	18
24	**TOSHIBA**[2]	JAPAN	29,469.3	930.8	58	31,676.8	25	6,630.7	49	125,000	46	7
25	**CHEVRON**	U.S.	29,443.0	251.0	235	33,884.0	22	13,980.0	15	54,826	134	18
26	**NESTLÉ**	SWITZERLAND	29,364.8[4]	1,474.5	31	22,976.0	41	8,565.2	28	196,940	19	8
27	**RENAULT**[5]	FRANCE	27,456.9	1,457.3	32	21,143.1	46	3,890.9	106	174,573	24	17
28	**ENI**	ITALY	27,119.3	1,125.9	40	41,479.1	14	10,363.1	21	82,748	81	18
29	**PHILIPS' GLOEILAMPENFABRIEKEN**	NETHERLANDS	26,992.5	648.1**	93	28,807.4	31	8,848.8	27	304,800	9	7
30	**HONDA MOTOR**[2]	JAPAN	26,484.3	758.5	74	17,206.1	63	6,789.6	42	71,200	97	17
31	**BASF**	W. GERMANY	25,317.0[4]	1,071.3	47	20,791.1	48	8,190.1	30	136,900	38	5
32	**NEC**[2]	JAPAN	24,594.8	502.6**	123	25,204.6	35	5,192.1	69	104,022	60	7
33	**HOECHST**	W. GERMANY	24,403.0	1,025.6	49	19,737.8	54	6,678.9	46	169,295	26	5
34	**AMOCO**	U.S.	24,214.0	1,610.0	28	30,430.0	28	13,684.0	16	53,648	138	18
35	**PEUGEOT**	FRANCE	24,090.5	1,616.1	27	18,584.2	56	6,673.0	47	159,100	30	17
36	**BAT INDUSTRIES**	BRITAIN	23,528.9	2,123.2	17	18,655.5	55	7,560.7	36	311,917	8	25
37	**ELF AQUITAINE**[5]	FRANCE	23,501.4	1,132.4	39	33,261.9	24	10,885.0	19	78,179	89	18
38	**BAYER**	W. GERMANY	23,021.2[4]	1,107.5	42	21,388.6	45	9,154.2	26	170,200	25	5
39	**CGE (CIE GÉNÉRALE D'ÉLECTRICITÉ)**	FRANCE	22,575.0	774.5	72	31,018.2	27	4,723.6	81	210,300	16	7
40	**IMPERIAL CHEMICAL INDUSTRIES**	BRITAIN	21,889.4	1,733.0**	23	18,197.0	57	8,095.1	31	133,800	41	5
41	**PROCTER & GAMBLE**[1]	U.S.	21,689.0	1,206.0	36	16,351.0	68	6,215.0	54	79,300	87	23
42	**MITSUBISHI ELECTRIC**[2]	JAPAN	21,213.3	415.0	146	20,380.6	50	4,812.8	79	85,723	78	7
43	**ASEA BROWN BOVERI**	SWITZERLAND	21,209.0	589.0	102	24,156.0	38	3,907.0	104	189,493	21	11
44	**NIPPON STEEL**[2]	JAPAN	20,767.0	607.9	98	26,143.7	33	5,486.2	62	64,504	109	15
45	**BOEING**	U.S.	20,276.0	973.0	51	13,278.0	92	6,131.0	55	159,200	29	1
46	**OCCIDENTAL PETROLEUM**	U.S.	20,068.0	285.0	206	20,741.0	49	5,899.0	57	53,500	140	8
47	**DAEWOO**	SOUTH KOREA	19,981.4	114.5	360	28,986.2	30	4,645.3	84	91,056	71	7
48	**UNITED TECHNOLOGIES**[6]	U.S.	19,765.5	702.1	84	14,598.2	80	4,740.3	80	201,400	17	1
49	**FUJITSU**[2]	JAPAN	18,734.1	541.1	110	19,770.5	53	7,239.4	38	104,503	59	6
50	**EASTMAN KODAK**	U.S.	18,546.0	529.0	112	23,652.0	39	6,642.0	48	137,750	37	22

The definitions and concepts underlying the figures in this directory are explained on page 316. Footnotes appear on page 296.

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THE WORLD'S BIGGEST INDUSTRIAL CORPORATIONS

1989			SALES	PROFITS		ASSETS		STOCKHOLDERS' EQUITY		EMPLOYEES		INDUSTRY TABLE NUMBER
			$ Millions	$ Millions	Rank	$ Millions	Rank	$ Millions	Rank	Number	Rank	
51	THYSSEN[3]	W. GERMANY	18,298.9[4]	408.0	151	11,154.3	111	2,430.5	178	133,824	40	15
52	USX	U.S.	17,755.0	965.0	52	17,500.0	59	5,737.0	61	53,610	139	18
53	DOW CHEMICAL	U.S.	17,730.0	2,487.0	13	22,166.0	44	7,957.0	33	62,111	116	5
54	XEROX	U.S.	17,635.0	704.0	82	30,088.0	29	5,035.0	74	111,400	54	22
55	TOTAL	FRANCE	16,926.8	346.1	177	15,313.0	74	3,736.6	114	41,200	189	18
56	MITSUBISHI MOTORS[2]	JAPAN	16,839.9	147.4	330	11,276.0	108	1,740.8	248	37,908	205	17
57	SONY[2]	JAPAN	16,680.2	563.8	107	17,811.1	58	6,867.6	40	78,900	88	7
58	PETROBRÁS[5]	BRAZIL	16,359.9	512.6	122	16,065.5	70	8,320.9	29	67,676	103	18
59	ROBERT BOSCH	W. GERMANY	16,263.0[4]	332.8	183	13,142.9	94	3,946.7	102	174,742	23	17
60	ATLANTIC RICHFIELD	U.S.	15,905.0	1,953.0	18	22,261.0	43	6,562.0	50	26,600	283	18
61	USINOR[5]	FRANCE	15,630.1	1,061.0	48	17,121.8	64	3,358.7	130	96,933	66	15
62	MAZDA MOTOR[2]	JAPAN	15,572.5[7]	99.1[7]	372	9,906.2	125	2,599.2	164	28,382	270	17
63	PEPSICO	U.S.	15,419.6	901.4	63	15,126.7	75	3,891.1	105	266,000	14	3
64	INI[5]	SPAIN	15,277.4	702.6[7]	83	31,245.4	26	6,121.7	56	151,423	34	16
65	PEMEX (PETRÓLEOS MEXICANOS)[5]	MEXICO	15,257.8[8]	320.1[8]	188	42,314.4[8]	13	24,200.2[8]	6	164,744[8]	27	18
66	RJR NABISCO HOLDINGS[9]	U.S.	15,224.0	(1,149.0)	497	36,412.0	18	1,237.0	320	48,000	154	8
67	MITSUBISHI HEAVY INDUSTRIES[2]	JAPAN	15,007.1	482.3	126	23,527.1	40	5,815.4	58	55,500	130	11
68	MCDONNELL DOUGLAS	U.S.	14,995.0	219.0	262	13,397.0	89	3,287.0	132	127,926	42	1
69	BRITISH AEROSPACE	BRITAIN	14,895.2	382.0	160	14,814.7	78	3,842.5	109	125,600	45	1
70	VOLVO	SWEDEN	14,637.7	836.9	68	16,245.1	69	5,249.3	68	75,340	93	17
71	NIPPON OIL[2]	JAPAN	14,562.7	216.3	266	13,388.2	90	3,626.6	117	9,669	449	18
72	TENNECO	U.S.	14,439.0	584.0	105	17,381.0	62	3,277.0	133	90,000	73	11
73	GRAND METROPOLITAN[3]	BRITAIN	14,274.6	1,805.9**	21	15,450.8	73	4,536.7	85	152,175	33	8
74	BMW (BAYERISCHE MOTOREN WERKE)	W. GERMANY	14,097.7	296.2	197	12,245.5	96	3,152.6	138	66,267	104	17
75	PECHINEY[5]	FRANCE	13,986.8	523.5	115	13,416.5	88	2,486.7	171	70,000	99	15
76	PETRÓLEOS DE VENEZUELA[5]	VENEZUELA	13,677.3	2,718.0	11	8,907.0	144	6,551.7	52	46,940	159	18
77	ELECTROLUX	SWEDEN	13,299.8	355.1	173	10,591.5	118	2,360.1	187	152,913	32	7
78	DIGITAL EQUIPMENT[1]	U.S.	12,866.0	1,072.6	46	10,667.8	117	8,035.7	32	125,800	43	6
79	WESTINGHOUSE ELECTRIC	U.S.	12,844.0	922.0	62	20,314.0	51	4,384.0	90	121,963	49	7
80	ROCKWELL INTERNATIONAL[3]	U.S.	12,633.1	734.9	79	8,938.8	143	3,977.6	101	108,715	56	1
81	CIBA-GEIGY	SWITZERLAND	12,597.9[4]	951.8	54	16,926.0	65	10,536.7	20	92,553	69	5
82	PHILLIPS PETROLEUM	U.S.	12,492.0	219.0	263	11,256.0	109	2,132.0	202	21,800	333	18
83	RUHRKOHLE	W. GERMANY	12,422.1	30.0	447	13,686.7	86	757.9	409	124,838	47	16
84	BRIDGESTONE	JAPAN	12,379.1	68.2	407	11,408.3	103	3,056.4	141	93,193	68	21
85	FERRUZZI FINANZIARIA	ITALY	12,046.9[4]	226.8	252	24,922.7	36	2,513.0	170	44,546	173	8
86	THOMSON[5]	FRANCE	12,027.1	78.0	398	16,863.5	66	1,535.5	274	100,000	65	7
87	ALLIED-SIGNAL	U.S.	12,021.0	528.0	114	10,132.0	122	3,412.0	125	107,100	57	1
88	MINNESOTA MINING & MFG.	U.S.	11,990.0	1,244.0	35	9,776.0	128	5,378.0	66	87,600	76	22
89	HEWLETT-PACKARD[10,11]	U.S.	11,899.0	829.0	70	10,075.0	123	5,446.0	64	95,000	67	6
90	MANNESMANN	W. GERMANY	11,872.5	246.2	241	9,600.4	132	2,721.7	158	125,785	44	11
91	HANSON[3]	BRITAIN	11,833.0	1,861.7**	19	17,477.0	60	1,753.3	244	89,000	74	4
92	KUWAIT PETROLEUM[1,5]	KUWAIT	11,796.5	735.2	78	22,725.9	42	14,655.4	14	15,372	396	18
93	SARA LEE[1]	U.S.	11,738.3	410.5	150	6,522.7	202	1,914.9	221	100,000	64	8
94	BTR	BRITAIN	11,544.0	1,082.1	44	9,759.7	129	2,578.4	165	109,501	55	4
95	RHÔNE-POULENC[5]	FRANCE	11,463.1	642.0	95	14,406.3	82	3,684.1	115	86,100	77	5
96	INTERNATIONAL PAPER	U.S.	11,378.0	864.0	66	11,582.0	100	5,147.0	71	63,500	113	9
97	CONAGRA[12]	U.S.	11,340.4	197.9	283	4,278.2	302	949.5	379	48,131	153	8
98	PETROFINA	BELGIUM	11,269.7	554.2	108	10,349.3	120	4,029.9	99	23,600	317	18
99	IDEMITSU KOSAN[2]	JAPAN	11,249.3[8]	13.1[8]	467	9,844.5[8]	126	327.4[8]	474	5,292[8]	482	18
100	ENIMONT	ITALY	11,191.5	522.1	117	14,192.6	83	4,194.9	94	52,656	142	5

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THE WORLD'S BIGGEST INDUSTRIAL CORPORATIONS

1989			SALES $ Millions	PROFITS $ Millions	Rank	ASSETS $ Millions	Rank	STOCKHOLDERS' EQUITY $ Millions	Rank	EMPLOYEES Number	Rank	INDUSTRY TABLE NUMBER
101	ALUMINUM CO. OF AMERICA	U.S.	11,161.5	944.9	56	11,540.6	102	5,266.9	67	60,600	118	15
102	CATERPILLAR	U.S.	11,126.0	497.0	125	10,926.0	113	4,474.0	87	60,409	119	11
103	GOODYEAR TIRE & RUBBER	U.S.	11,044.7	206.8	275	8,460.3	159	2,143.8	201	111,469	53	21
104	NKK[2]	JAPAN	10,925.8	714.5	81	20,088.0	52	2,372.8	185	29,993	261	14
105	METALLGESELLSCHAFT[3]	W. GERMANY	10,753.2	75.9	399	4,856.9	275	695.3	422	24,496	307	15
106	INDIAN OIL[7,3]	INDIA	10,609.7	356.3	172	4,253.1	304	1,425.8	285	33,776	231	18
107	SANYO ELECTRIC[13]	JAPAN	10,486.9[14]	123.6	350	14,184.0	84	4,987.3	76	55,526	129	7
108	BARLOW RAND[3]	SOUTH AFRICA	10,417.7[4]	358.1	171	5,934.7	218	1,268.5	315	159,779	28	8
109	UNOCAL	U.S.	10,417.0	260.0	224	9,257.0	137	2,300.0	195	17,286	379	18
110	SAINT-GOBAIN	FRANCE	10,403.1	676.3	88	13,481.6	87	4,209.4	93	87,816	75	4
111	GEC (GENERAL ELECTRIC CO.)[2]	BRITAIN	10,396.0	923.9	61	9,464.8	134	5,033.5	75	145,029	36	7
112	ELDERS IXL[1]	AUSTRALIA	10,338.7	513.8	121	7,487.2	180	2,943.5	146	33,702	233	8
113	GEORGIA-PACIFIC	U.S.	10,171.0	661.0	89	7,056.0	188	2,717.0	160	44,000	177	9
114	WEYERHAEUSER	U.S.	10,105.6	341.1	180	15,976.0	72	4,147.6	97	45,214	168	9
115	UNISYS	U.S.	10,096.9	(639.3)	494	10,751.0	115	3,881.6	107	82,300	83	6
116	RTZ	BRITAIN	10,093.0	1,359.2**	34	11,739.0	99	4,120.2	98	77,592	91	16
117	GENERAL DYNAMICS	U.S.	10,053.2	293.1	198	6,548.6	201	2,125.6	203	102,200	63	1
118	CANON	JAPAN	10,023.6[14]	277.5	212	11,379.6	105	3,830.6	110	44,401	175	6
119	REPSOL	SPAIN	9,998.3	544.5	109	8,938.8	142	3,386.6	127	19,171	363	18
120	LOCKHEED	U.S.	9,932.0	2.0	470	6,792.0	194	2,062.0	206	82,500	82	1
121	SHARP	JAPAN	9,927.5[14]	226.0	253	13,291.1	91	4,027.7	100	32,298	245	7
122	SUN	U.S.	9,927.0	98.0	373	8,699.0	149	3,254.0	135	21,600	335	18
123	KOBE STEEL[2]	JAPAN	9,886.3	198.3	282	14,959.0	77	1,782.5	238	24,456	308	15
124	ISUZU MOTORS[10]	JAPAN	9,867.7[14]	122.2	352	7,233.9	185	1,084.4	348	24,335	311	17
125	JOHNSON & JOHNSON	U.S.	9,844.0	1,082.0	45	7,919.0	169	4,148.0	96	83,100	80	19
126	NIPPONDENSO	JAPAN	9,663.2[14]	348.4	175	9,005.8	141	4,159.7	95	49,390	150	17
127	SUMITOMO METAL INDUSTRIES[2]	JAPAN	9,643.0	451.8	134	14,759.5	79	2,868.0	149	26,753	281	15
128	MOTOROLA	U.S.	9,620.0	498.0	124	7,686.0	172	3,803.0	111	104,000	61	7
129	NORSK HYDRO[5]	NORWAY	9,599.0	388.9	158	11,288.1	107	2,788.5	151	32,782	243	5
130	COSMO OIL[2]	JAPAN	9,488.4	81.9	394	8,000.3	167	504.1	445	3,700	491	18
131	ANHEUSER-BUSCH	U.S.	9,481.3	767.2	73	9,025.7	140	3,099.9	139	46,608	162	3
132	BRISTOL-MYERS SQUIBB[15]	U.S.	9,422.0	747.0	77	8,497.0	157	5,084.0	72	54,100	137	19
133	FRIED. KRUPP	W. GERMANY	9,402.1	(272.3)	489	5,957.3	217	462.8	452	63,557	112	11
134	CANADIAN PACIFIC	CANADA	9,306.3[4]	629.3	97	16,449.3	67	6,732.7	44	75,600	92	9
135	MAN[1]	W. GERMANY	9,176.9	128.0	345	7,704.5	171	1,292.3	308	62,048	117	11
136	COCA-COLA	U.S.	9,170.8	1,723.8	25	8,282.5	162	3,485.5	123	20,960	340	3
137	BROKEN HILL PROPRIETARY[12]	AUSTRALIA	9,127.2	924.6	60	15,039.9	76	5,037.1	73	49,000	151	15
138	KAWASAKI STEEL[2]	JAPAN	9,081.2	378.1	163	13,266.2	93	2,767.8	155	24,455	309	15
139	SUNKYONG	SOUTH KOREA	9,014.0	154.3	324	6,711.0	198	1,679.0	254	21,876	331	18
140	PREUSSAG	W. GERMANY	8,987.3	149.1	327	7,663.4	173	653.8	429	65,705	105	15
141	ALCAN ALUMINIUM	CANADA	8,839.0[4]	835.0	69	9,508.0	133	4,822.0	78	57,000	124	14
142	AKZO	NETHERLANDS	8,837.8	450.1	135	7,484.4	181	2,357.3	189	70,900	98	5
143	RAYTHEON	U.S.	8,796.1	528.8	113	5,338.3	250	2,426.1	179	77,600	90	7
144	UNION CARBIDE	U.S.	8,744.0	573.0	106	8,546.0	152	2,383.0	183	45,987	166	5
145	STATOIL[5]	NORWAY	8,734.6	734.2	80	9,787.9	127	1,594.5	264	11,023	433	18
146	MONSANTO	U.S.	8,681.0	679.0	87	8,604.0	150	3,941.0	103	42,179	184	5
147	BRITISH STEEL[2]	BRITAIN	8,676.9	992.2	50	8,798.4	147	6,317.8	53	55,200	133	15
148	MICHELIN	FRANCE	8,668.7	384.3	159	11,817.1	98	2,992.1	143	124,408	48	21
149	MITSUBISHI KASEI[2]	JAPAN	8,649.5[7]	157.0[7]	321	10,719.9	116	1,560.8	269	19,075	364	5
150	COASTAL	U.S.	8,607.1	170.1	310	8,773.3	148	1,793.0	237	13,232	413	18

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1989			SALES	PROFITS		ASSETS		STOCKHOLDERS' EQUITY		EMPLOYEES		INDUSTRY TABLE NUMBER
			$ Millions	$ Millions	Rank	$ Millions	Rank	$ Millions	Rank	Number	Rank	
151	TAIYO FISHERY[2]	JAPAN	8,326.1[7]	60.3[7]	414	3,376.3	372	313.4	477	7,988	459	8
152	SHOWA SHELL SEKIYU	JAPAN	8,229.9	46.3	431	5,661.4	227	498.9	448	N.A.		18
153	DALGETY[1]	BRITAIN	8,159.7	116.1‡	359	2,349.8	446	690.9	423	22,503	325	8
154	NESTE[5]	FINLAND	8,123.9	434.4	139	8,497.8	156	3,230.9	136	11,958	426	18
155	ASAHI GLASS	JAPAN	8,088.4[14]	426.7	141	8,530.2	153	3,583.5	119	17,605	376	5
156	ARCHER-DANIELS-MIDLAND[1]	U.S.	8,056.5	424.7	142	4,728.3	284	3,033.5	142	10,214	443	8
157	SMITHKLINE BEECHAM[16]	BRITAIN	8,028.8	213.3‡	271	6,048.9	213	(478.7)	495	62,800	115	19
158	ASHLAND OIL[3]	U.S.	8,016.6	86.2	389	4,455.7	291	1,140.5	334	37,800	206	18
159	CHINESE PETROLEUM[5]	TAIWAN	8,008.2	1,776.2	22	10,390.6	119	7,877.3	34	22,357	326	18
160	ASAHI CHEMICAL INDUSTRY[2]	JAPAN	7,991.6	268.2	216	7,560.3	174	2,443.8	177	22,908	322	24
161	DAI NIPPON PRINTING[2]	JAPAN	7,891.8	273.9	213	7,171.1	186	3,408.6	126	20,799	342	20
162	DEGUSSA[3]	W. GERMANY	7,864.3	93.1	378	3,541.4	361	748.8	412	33,698	235	15
163	NORANDA	CANADA	7,802.1[4]	373.3	167	12,127.8	97	3,846.3	108	58,998	120	9
164	JAPAN TOBACCO[2,5]	JAPAN	7,769.1[8]	298.2[8]	195	11,308.8[8]	106	7,580.3[8]	35	26,700[8]	282	25
165	SANDOZ	SWITZERLAND	7,766.1	585.6	104	7,751.5	170	4,267.4	91	50,655	145	19
166	BSN	FRANCE	7,738.9	423.3	144	9,752.2	130	3,274.7	134	49,693	149	8
167	TIME WARNER[17]	U.S.	7,642.0	(256.0)	488	24,791.0	37	6,756.0	43	35,000	222	20
168	BRITISH COAL[2,5]	BRITAIN	7,596.3	(359.0)	490	10,958.9	112	5,461.7	63	105,045	58	16
169	BORDEN	U.S.	7,593.4	(60.6)	478	4,824.9	277	1,645.4	256	46,500	163	8
170	PIRELLI	ITALY/SWITZERLAND	7,541.5	174.4	304	9,144.0	139	2,358.0	188	69,329	100	21
171	VEBA OEL	W. GERMANY	7,491.9	21.8	459	3,328.8	375	747.4	413	20,481	346	18
172	TEXTRON	U.S	7,440.1	259.2	225	13,790.4	85	2,547.1	169	58,000	123	1
173	SSANGYONG	SOUTH KOREA	7,421.8	171.9**	308	11,543.8	101	2,553.7	167	20,932	341	18
174	TRW	U.S.	7,408.0	263.0	221	5,259.0	253	1,749.0	245	74,300	94	7
175	SUZUKI MOTOR[2]	JAPAN	7,403.9	50.2	428	4,702.0	285	1,283.7	310	23,544	319	17
176	BAXTER INTERNATIONAL	U.S.	7,399.0	446.0	136	8,503.0	155	4,246.0	92	64,300	110	22
177	FUJI PHOTO FILM[18]	JAPAN	7,367.7	650.2	92	9,280.8	136	5,754.7	59	19,677	354	22
178	AMERICAN BRANDS	U.S.	7,264.7	630.8	96	11,394.2	104	2,965.9	145	47,300	157	25
179	HONEYWELL	U.S.	7,241.6	604.1	99	5,258.2	254	1,918.2	220	65,312	108	7
180	DEERE[10]	U.S.	7,221.0	380.2	162	9,145.4	138	2,780.3	152	38,949	198	11
181	SAAB-SCANIA	SWEDEN	7,219.0	156.4	322	7,496.5	178	1,348.1	298	48,708	152	17
182	TOPPAN PRINTING[2]	JAPAN	7,216.9	225.2	254	5,932.2	219	2,773.4	153	14,530	402	20
183	SNOW BRAND MILK PRODUCTS[2]	JAPAN	7,188.5	51.7	426	3,060.0	399	676.1	427	14,269	403	8
184	SCHNEIDER	FRANCE	7,079.7	137.6	338	7,957.4	168	1,167.6	332	80,658	85	7
185	EMERSON ELECTRIC[3]	U.S.	7,071.3	588.0	103	5,408.0	245	3,073.4	140	72,600	96	7
186	SUMITOMO CHEMICAL	JAPAN	6,938.0	253.1	230	7,497.6	177	1,455.1	280	12,537	422	5
187	KAWASAKI HEAVY INDUSTRIES[2]	JAPAN	6,905.6	90.6	382	7,490.0	179	705.9	418	19,747	353	27
188	SUMITOMO ELECTRIC INDUSTRIES[2]	JAPAN	6,878.1	179.2	296	5,737.0	224	2,055.8	208	27,044	277	14
189	ALLIED-LYONS[19]	BRITAIN	6,870.7	601.2	100	9,281.6	135	5,177.9	70	81,440	84	3
190	AMERICAN HOME PRODUCTS[20]	U.S.	6,747.0	1,102.2	43	5,681.5	225	1,970.0	217	50,816	143	19
191	BERTELSMANN[1]	W. GERMANY	6,717.1	138.4	337	3,792.3	330	788.2	404	43,702	178	20
192	RALSTON PURINA[3]	U.S.	6,711.6	422.5	145	4,381.7	297	831.7	395	56,219	126	8
193	MERCK	U.S.	6,698.4	1,495.4	30	6,756.7	196	3,520.6	122	34,400	227	19
194	MITSUBISHI METAL[2]	JAPAN	6,698.2[14]	88.2	386	5,508.9	238	810.3	400	11,281	431	15
195	SOLVAY	BELGIUM	6,692.7	393.0	155	6,840.1	192	2,425.1	180	45,011	169	27
196	MATSUSHITA ELECTRIC WORKS[13]	JAPAN	6,656.5	231.5	247	6,011.2	214	2,397.9	182	20,681	344	11
197	TEXAS INSTRUMENTS	U.S.	6,592.2	291.7	200	4,804.4	278	2,484.9	172	73,854	95	7
198	OLIVETTI	ITALY	6,585.8	147.9	328	10,921.7	114	2,855.1	150	56,937	125	6
199	FLETCHER CHALLENGE[1]	NEW ZEALAND	6,571.7	407.1	152	8,076.1	164	2,237.6	197	37,000	211	9
200	STORA KOPPARBERGS BERGSLAGS	SWEDEN	6,549.9	250.8**	237	8,906.0	145	1,389.0	290	53,250	141	9

The definitions and concepts underlying the figures in this directory are explained on page 316. Footnotes appear on page 296.

1989			SALES	PROFITS		ASSETS		STOCKHOLDERS' EQUITY		EMPLOYEES		INDUSTRY TABLE NUMBER
			$ Millions	$ Millions	Rank	$ Millions	Rank	$ Millions	Rank	Number	Rank	
201	**POHANG IRON & STEEL**	SOUTH KOREA	**6,471.9**	**214.3**	269	**13,125.9**	95	**6,685.4**	45	**22,518**	324	15
202	**NEWS CORP.**[1]	AUSTRALIA	**6,453.0**	**949.5****	55	**14,411.7**	81	**4,692.3**	82	**30,908**	255	20
203	**KOÇ HOLDING**	TURKEY	**6,414.9**[4]	**220.4**	261	**2,458.8**	439	**432.8**	458	**37,321**	209	17
204	**ROCHE/SAPAC**	SWITZERLAND	**6,369.8**	**520.8**	118	**11,213.5**	110	**7,543.2**	37	**50,203**	146	5
205	**LTV**	U.S.	**6,362.1**	**264.9**	220	**6,336.2**	206	**(4,919.8)**	497	**38,000**	202	15
206	**KOMATSU**[2]	JAPAN	**6,349.1**	**162.4**	317	**8,503.1**	154	**3,351.5**	131	**21,633**	334	11
207	**W.R. GRACE**	U.S.	**6,330.8**	**253.2**	229	**5,619.1**	230	**1,730.4**	250	**49,700**	148	5
208	**WHIRLPOOL**	U.S.	**6,318.9**	**187.2**	288	**5,353.5**	248	**1,421.4**	286	**39,411**	195	7
209	**ISHIKAWAJIMA-HARIMA HEAVY IND.**[2]	JAPAN	**6,290.1**	**103.3**	368	**8,550.7**	151	**1,016.1**	360	**26,178**	287	11
210	**NIPPON MINING**[2]	JAPAN	**6,250.1**[14]	**105.6**	366	**7,048.1**	189	**1,108.6**	343	**11,351**	430	18
211	**TORAY INDUSTRIES**[2]	JAPAN	**6,250.0**	**260.9**	223	**7,284.5**	184	**2,630.0**	163	**26,211**	286	24
212	**L.M. ERICSSON**	SWEDEN	**6,249.6**	**327.0**	185	**6,582.8**	200	**1,991.3**	215	**69,229**	101	7
213	**BICC**	BRITAIN	**6,217.1**[4]	**190.2**	286	**3,096.6**	395	**621.6**	432	**46,035**	164	14
214	**REYNOLDS METALS**	U.S.	**6,201.0**	**532.7**	111	**5,555.6**	234	**2,684.1**	162	**30,500**	258	15
215	**HENKEL**	W. GERMANY	**6,188.2**	**214.8**	268	**5,054.9**	264	**1,906.0**	222	**38,145**	201	5
216	**NORTHERN TELECOM**	CANADA	**6,105.5**	**376.5**	164	**6,375.0**	204	**2,768.8**	154	**47,572**	155	7
217	**HILLSDOWN HOLDINGS**	BRITAIN	**6,046.9**	**246.6**	240	**2,860.9**	411	**830.0**	396	**40,558**	192	8
218	**NCR**	U.S.	**5,956.0**	**412.0**	149	**4,500.0**	287	**1,985.0**	216	**56,000**	127	6
219	**PFIZER**	U.S.	**5,903.7**	**681.1**	86	**8,324.8**	160	**4,535.8**	86	**42,100**	185	19
220	**JAMES RIVER CORP. OF VIRGINIA**[21]	U.S.	**5,901.6**	**255.1**	228	**5,558.1**	233	**2,345.8**	191	**36,000**	216	9
221	**HYUNDAI MOTOR**	SOUTH KOREA	**5,845.1**	**62.1**	413	**5,502.1**	239	**1,217.9**	321	**40,300**	193	17
222	**H.J. HEINZ**[21]	U.S.	**5,831.9**	**440.2**	138	**4,001.8**	317	**1,777.2**	240	**36,200**	215	8
223	**PPG INDUSTRIES**	U.S.	**5,825.2**	**465.2**	130	**5,645.4**	228	**2,282.3**	196	**35,500**	218	5
224	**ARBED**	LUXEMBOURG	**5,824.2**	**251.2**	234	**6,765.2**	195	**1,542.4**	273	**54,237**	135	15
225	**THORN EMI**[2]	BRITAIN	**5,819.9**	**307.0**	191	**3,778.9**	334	**994.3**	365	**65,444**	107	7
226	**MARTIN MARIETTA**	U.S.	**5,814.3**	**306.9**	192	**3,505.4**	364	**1,355.0**	296	**65,500**	106	1
227	**GENERAL MILLS**[12]	U.S.	**5,798.0**	**414.3**	147	**2,888.1**	410	**731.9**	416	**83,837**	79	8
228	**BOND CORP. HOLDINGS**[1]	AUSTRALIA	**5,779.9**[7]	**(799.8)‡**	496	**8,844.6**	146	**(87.6)**	491	**N.A.**		3
229	**RICOH**[2]	JAPAN	**5,779.5**[14]	**138.7**	336	**5,499.9**	240	**2,414.2**	181	**34,400**	228	6
230	**KIMBERLY-CLARK**	U.S.	**5,777.1**	**423.8**	143	**4,923.0**	273	**2,085.8**	204	**39,664**	194	9
231	**SALZGITTER**[3]	W. GERMANY	**5,747.2**	**182.0**	292	**4,121.0**	311	**1,125.1**	339	**39,006**	196	15
232	**AÉROSPATIALE**[5]	FRANCE	**5,735.7**	**20.2**	462	**7,426.9**	183	**891.2**	386	**36,899**	212	1
233	**QUAKER OATS**[1]	U.S.	**5,724.3**	**203.0**	278	**3,221.9**	381	**1,137.1**	335	**31,700**	248	8
234	**DAIHATSU MOTOR**[2]	JAPAN	**5,715.4**	**51.0**	427	**3,593.4**	354	**833.9**	394	**18,570**	369	17
235	**CAMPBELL SOUP**[22]	U.S.	**5,710.4**	**13.1**	468	**3,932.1**	323	**1,778.3**	239	**55,412**	132	8
236	**TATE & LYLE**[3]	BRITAIN	**5,681.3**	**191.2**	284	**3,153.6**	386	**687.1**	424	**18,606**	368	8
237	**HOESCH**	W. GERMANY	**5,677.6**	**38.2**	442	**5,121.4**	259	**850.7**	392	**44,500**	174	11
238	**BASS**[3]	BRITAIN	**5,654.4**	**645.9**	94	**7,559.1**	175	**4,417.3**	89	**90,138**	72	3
239	**FURUKAWA ELECTRIC**[2]	JAPAN	**5,651.1**	**90.5**	383	**4,958.2**	270	**1,127.9**	338	**15,104**	397	14
240	**KUBOTA**[2]	JAPAN	**5,623.4**[14]	**143.6**	334	**6,268.6**	208	**2,356.2**	190	**17,500**	377	11
241	**AMERADA HESS**	U.S.	**5,589.0**	**476.3**	127	**6,867.4**	191	**2,560.6**	166	**8,740**	454	18
242	**DAINIPPON INK & CHEMICALS**[2]	JAPAN	**5,585.5**	**56.4**	417	**5,595.7**	232	**1,194.2**	327	**20,122**	347	5
243	**VIAG**	W. GERMANY	**5,547.5**[4]	**132.6**	341	**7,057.6**	187	**2,029.8**	210	**34,657**	225	15
244	**TAKEDA CHEMICAL**[2]	JAPAN	**5,454.0**[14]	**301.6**	193	**6,678.0**	199	**3,382.2**	128	**13,675**	409	19
245	**ABBOTT LABORATORIES**	U.S.	**5,453.5**	**859.8**	67	**4,851.6**	276	**2,726.4**	157	**40,929**	191	19
246	**LYONDELL PETROCHEMICAL**	U.S.	**5,374.0**	**374.0**	166	**1,267.0**	488	**9.0**	489	**2,070**	493	5
247	**FUJI ELECTRIC**[2]	JAPAN	**5,369.1**	**73.0**	402	**5,415.4**	244	**1,024.3**	356	**19,248**	361	7
248	**STONE CONTAINER**	U.S.	**5,360.7**	**285.8**	205	**6,253.7**	211	**1,347.6**	299	**32,600**	244	9
249	**NOKIA**	FINLAND	**5,308.4**	**36.3‡**	443	**5,533.6**	235	**1,806.5**	235	**41,326**	188	7
250	**BETHLEHEM STEEL**	U.S.	**5,305.9**	**245.7**	242	**4,793.3**	280	**2,002.9**	212	**30,500**	257	15

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THE WORLD'S BIGGEST INDUSTRIAL CORPORATIONS

1989			SALES	PROFITS		ASSETS		STOCKHOLDERS' EQUITY		EMPLOYEES		INDUSTRY TABLE NUMBER
			$ Millions	$ Millions	Rank	$ Millions	Rank	$ Millions	Rank	Number	Rank	
251	**APPLE COMPUTER**[3]	U.S.	5,284.0	454.0	132	2,743.9	417	1,485.7	276	12,068	424	6
252	**CEA-INDUSTRIE**[5]	FRANCE	5,255.6	345.0	178	17,457.6	61	2,216.8	198	36,800	213	5
253	**CHAMPION INTERNATIONAL**	U.S.	5,254.2	432.4	140	7,530.8	176	3,588.5	118	29,600	262	9
254	**TOYO SEIKAN**[2]	JAPAN	5,242.0	180.4	294	3,900.3	326	1,696.7	251	6,206	478	14
255	**FELDMÜHLE NOBEL**	W. GERMANY	5,224.4	86.2	390	4,095.7	314	1,097.5	345	35,375	220	9
256	**NORTHROP**	U.S.	5,200.0	(80.5)	481	3,200.0	383	875.1	389	41,000	190	1
257	**BULL**	FRANCE	5,191.5	(41.8)**	476	5,380.4	246	999.6	363	43,617	179	6
258	**FUJI HEAVY INDUSTRIES**[2]	JAPAN	5,188.4	52.3	425	5,492.3	241	2,013.4	211	18,700	366	17
259	**COCKERILL SAMBRE**[5]	BELGIUM	5,166.7	390.3	157	5,237.1	256	1,602.7	263	25,349	298	15
260	**DANA**	U.S.	5,156.7	132.1	342	5,225.4	257	1,019.9	359	37,500	208	17
261	**LITTON INDUSTRIES**[22]	U.S.	5,130.3	178.3	298	5,257.7	255	1,267.7	316	50,700	144	7
262	**COOPER INDUSTRIES**[23]	U.S.	5,129.4	267.8	217	6,745.0	197	2,696.2	161	58,100	122	7
263	**CPC INTERNATIONAL**	U.S.	5,129.3	327.5	184	3,704.7	342	1,217.6	322	33,542	236	8
264	**THOMSON CORP.**	CANADA	5,112.0	929.0**	59	6,955.0	190	2,968.0	144	44,628	172	20
265	**COLGATE-PALMOLIVE**	U.S.	5,110.2	280.0	211	3,536.5	362	1,123.2	340	24,100	313	23
266	**DSM**	NETHERLANDS	5,081.1[4]	650.9	91	5,079.4	263	2,001.0	213	29,500	263	5
267	**SCOTT PAPER**	U.S.	5,065.6	375.5	165	5,746.3	223	2,060.8	207	29,400	264	9
268	**KANEBO**[2]	JAPAN	5,035.3[14]	33.5	444	4,761.0	281	131.2	486	25,465	297	24
269	**SEKISUI CHEMICAL**[2]	JAPAN	5,034.2	178.4	297	4,263.1	303	1,208.4	326	9,316	451	5
270	**KIRIN BREWERY**	JAPAN	4,971.0[14]	220.5	260	8,289.9	161	3,443.3	124	10,478	439	3
271	**TONEN**[24]	JAPAN	4,891.0	184.0	290	4,747.0	282	2,455.3	175	4,213	488	18
272	**ROLLS-ROYCE**	BRITAIN	4,856.3	314.8	189	4,186.4	308	1,817.9	234	55,475	131	1
273	**SCHLUMBERGER**	NETHERLANDS ANTILLES	4,843.7[4]	441.5	137	5,481.8	242	2,897.9	147	46,000	165	22
274	**AMERICAN CYANAMID**	U.S.	4,825.0	292.0	199	4,971.2	268	2,321.4	193	35,394	219	5
275	**OIL & NATURAL GAS COMMISSION**[2,5]	INDIA	4,815.9	1,107.6	41	10,339.7	121	5,742.6	60	45,420	167	18
276	**HACI ÖMER SABANCI HOLDING**	TURKEY	4,810.6[4]	227.1	251	4,457.1	290	586.8	438	32,114	246	24
277	**WICKES**[25]	U.S.	4,801.9	(122.5)	487	3,573.3	357	1,107.8	344	38,000	203	24
278	**HYOSUNG**	SOUTH KOREA	4,782.4	21.5	460	3,601.5	352	1,021.6	357	24,800	305	24
279	**LAFARGE COPPÉE**	FRANCE	4,765.5	341.4	179	7,446.8	182	1,846.0	230	31,039	253	4
280	**SIDERBRÁS**[5]	BRAZIL	4,756.1	(470.7)	492	15,985.4	71	1,479.0	277	80,000	86	15
281	**HÜLS**	W. GERMANY	4,749.8[4]	180.6	293	4,116.3	312	1,092.0	347	31,289	252	5
282	**OJI PAPER**[2]	JAPAN	4,708.5	207.3	274	5,046.2	265	1,628.2	259	N.A.		9
283	**KELLOGG**	U.S.	4,666.2	470.2	129	3,390.4	371	1,634.4	258	17,268	380	8
284	**TELEDYNE**	U.S.	4,664.2	258.9	226	3,447.1	367	2,326.9	192	43,200	180	7
285	**CADBURY SCHWEPPES**	BRITAIN	4,661.5	290.9	201	3,434.0	368	961.1	375	34,982	223	3
286	**MEAD**	U.S.	4,646.6	215.8	267	3,750.0	337	1,680.8	252	21,800	332	9
287	**NIPPON MEAT PACKERS**[2]	JAPAN	4,640.1	89.8	385	2,712.5	420	972.1	373	14,836	401	8
288	**AISIN SEIKI**[2]	JAPAN	4,633.3	92.5	379	3,084.5	396	1,276.5	313	13,568	410	17
289	**COURTAULDS**[2]	BRITAIN	4,615.4	453.8**	133	3,047.9	404	1,272.2	314	63,200	114	5
290	**HACHETTE**	FRANCE	4,605.8	73.6	401	4,237.1	305	438.9	457	30,550	256	20
291	**ALUSUISSE**	SWITZERLAND	4,567.1	284.9	207	3,939.0	322	979.2	370	25,473	296	14
292	**UBE INDUSTRIES**[2]	JAPAN	4,552.9	151.0	326	6,308.2	207	504.8	444	12,622	421	4
293	**PILKINGTON**[2]	BRITAIN	4,550.0	312.2‡	190	4,400.2	294	1,379.7	291	58,400	121	4
294	**VALE DO RIO DOCE**[5]	BRAZIL	4,523.2	2,944.1	10	6,473.0	203	3,371.8	129	23,415	320	16
295	**BEATRICE**[19]	U.S.	4,498.0	325.0	186	3,786.0	332	816.0	399	16,400	385	8
296	**KAO**[2]	JAPAN	4,490.4	135.5	340	4,015.1	316	1,761.0	242	12,900	419	23
297	**L'AIR LIQUIDE**	FRANCE	4,482.8	333.6	181	5,962.2	216	2,370.1	186	27,000	278	5
298	**TÜRKIYE PETROLLERI**[5]	TURKEY	4,457.1	273.6	214	3,786.7	331	1,870.9	226	20,530	345	18
299	**CONTINENTAL**	W. GERMANY	4,456.5	121.1	354	3,199.7	384	946.9	380	47,495	156	21
300	**HYUNDAI HEAVY INDUSTRIES**	SOUTH KOREA	4,428.9	94.3	377	5,303.7	251	1,614.5	261	50,000	147	27

The definitions and concepts underlying the figures in this directory are explained on page 316. Footnotes appear on page 296.

THE GLOBAL 500

THE WORLD'S BIGGEST INDUSTRIAL CORPORATIONS

1989			SALES $ Millions	PROFITS $ Millions	Rank	ASSETS $ Millions	Rank	STOCKHOLDERS' EQUITY $ Millions	Rank	EMPLOYEES Number	Rank	INDUSTRY TABLE NUMBER
301	TEIJIN[2]	JAPAN	4,424.4	158.1	319	6,263.8	209	1,842.3	232	11,013	434	24
302	ASSOCIATED BRITISH FOODS[2]	BRITAIN	4,415.2	347.0	176	3,735.9	338	2,868.9	148	33,349	238	8
303	GLAXO HOLDINGS[1]	BRITAIN	4,408.3	1,180.1	37	5,373.5	247	3,548.8	121	37,547	207	19
304	OKI ELECTRIC INDUSTRY[2]	JAPAN	4,365.3[14]	118.8	358	4,391.8	296	1,115.4	342	18,440	370	7
305	TRELLEBORG	SWEDEN	4,351.6	286.9	204	4,801.6	279	783.7	405	26,384	284	4
306	BOISE CASCADE	U.S.	4,338.0	267.6	218	4,142.6	309	1,575.3	266	19,539	356	9
307	HOOGOVENS GROEP	NETHERLANDS	4,304.5	354.1**	174	4,976.9	267	1,360.1	295	26,913	279	15
308	STEEL AUTHORITY OF INDIA[2,5]	INDIA	4,304.0	209.1	273	5,151.7	258	2,721.5	159	197,799	18	15
309	NAVISTAR INTERNATIONAL[10]	U.S.	4,296.0	87.0	388	3,609.0	351	914.0	383	14,237	404	17
310	STC	BRITAIN	4,274.9	288.9	202	2,904.0	409	1,054.6	352	36,393	214	6
311	WARNER-LAMBERT	U.S.	4,272.0	412.7	148	2,859.8	413	1,129.8	337	33,000	240	19
312	L'ORÉAL	FRANCE	4,262.5	283.1	209	3,945.5	321	1,674.7	255	28,365	271	23
313	EATON	U.S.	4,240.9	224.9	255	3,051.6	402	1,144.7	333	43,048	181	17
314	RMC GROUP	BRITAIN	4,214.7	262.5**	222	2,621.6	427	958.5	376	25,709	293	4
315	HINO MOTORS[2]	JAPAN	4,203.3[8]	44.1[8]	434	2,115.8[8]	457	678.1[8]	426	8,053[8]	458	17
316	NIPPON SUISAN KAISHA[2]	JAPAN	4,181.2	21.1	461	2,303.4	450	618.6	433	5,168	483	8
317	ELI LILLY	U.S.	4,175.6	939.5	57	5,848.0	222	3,757.1	113	28,200	273	19
318	UNIGATE[2]	BRITAIN	4,165.8	230.6**	249	1,606.5	482	698.7	420	35,195	221	8
319	SHOWA DENKO	JAPAN	4,165.5	53.6	422	4,445.1	292	886.4	387	6,246	476	5
320	INLAND STEEL INDUSTRIES	U.S.	4,146.7	119.7	357	3,008.5	405	1,495.1	275	20,715	343	15
321	NIPPON LIGHT METAL[2]	JAPAN	4,134.1	114.3	361	3,542.7	359	245.3	482	10,700	436	14
322	YAMAHA MOTOR[2]	JAPAN	4,126.8	49.5	429	3,594.0	353	548.4	442	9,925	446	17
323	AJINOMOTO[2]	JAPAN	4,110.1	121.6	353	5,282.4	252	2,465.9	174	9,532	450	8
324	SULZER BROTHERS	SWITZERLAND	4,088.4	74.0	400	5,109.7	260	1,394.5	289	33,949	230	11
325	NOVA	CANADA	4,087.3[4]	157.1	320	6,823.8	193	2,083.8	205	12,730	420	5
326	JACOBS SUCHARD	SWITZERLAND	4,077.1	168.2	312	3,145.3	388	1,365.7	294	16,029	389	8
327	DE BEERS CONSOLIDATED MINES	SOUTH AFRICA	4,074.5	1,558.9	29	8,008.2	165	6,560.3	51	23,653	316	16
328	CRA	AUSTRALIA	4,026.7	514.0	120	6,336.5	205	3,186.5	137	21,185	339	16
329	WHITMAN	U.S.	4,023.8	190.7	285	3,717.6	341	894.1	385	25,188	301	8
330	DRESSER INDUSTRIES[10]	U.S.	4,022.9	170.0	311	3,056.1	401	1,608.2	262	31,400	251	11
331	JOHN LABATT[21]	CANADA	4,013.9	111.7	363	2,323.2	448	1,178.4	328	16,000	390	8
332	PETRO-CANADA[5]	CANADA	3,959.7	26.2‡	454	5,887.7	220	2,381.7	184	6,468	473	18
333	TOYOBO[2]	JAPAN	3,957.8	55.9	413	3,703.9	343	682.9	425	15,020	400	24
334	INCO	CANADA	3,948.0	753.4	76	3,665.5	345	1,289.3	309	19,337	360	16
335	SVENSKA CELLULOSA	SWEDEN	3,935.5	250.8	236	5,008.9	266	1,569.3	267	23,682	315	23
336	JUJO PAPER[2]	JAPAN	3,935.3[14]	122.9	351	4,308.4	301	982.4	369	6,743	471	9
337	SEAGRAM[25]	CANADA	3,934.7	589.5	101	9,696.5	131	4,974.3	77	16,200	387	3
338	AMAX	U.S.	3,915.0	360.4	168	4,190.0	307	2,040.9	209	20,000	349	15
339	MITSUBISHI OIL[2]	JAPAN	3,910.0	66.8	410	4,339.4	299	493.6	449	3,340	492	18
340	BOC GROUP[1]	BRITAIN	3,904.5	380.6	161	4,477.0	289	1,844.1	231	38,350	200	5
341	COCA-COLA ENTERPRISES	U.S.	3,888.5	71.7	404	4,731.9	283	1,680.1	253	20,000	351	3
342	SKF	SWEDEN	3,884.6	216.8	264	4,338.2	300	1,743.2	247	46,667	161	14
343	GREAT NORTHERN NEKOOSA	U.S.	3,863.1	321.1	187	4,115.4	313	1,803.5	236	19,500	357	9
344	GOLDSTAR	SOUTH KOREA	3,863.0	26.7	453	3,465.7	366	756.8	410	33,000	241	7
345	UNITED BRANDS[26]	U.S.	3,851.0	67.8	408	1,613.0	481	464.0	450	44,000	176	8
346	GILLETTE	U.S.	3,849.6	284.7	208	3,114.0	391	70.0	488	30,400	259	14
347	CEPSA (ESPAÑOLA DE PETRÓLEOS)	SPAIN	3,837.0	91.9	380	2,028.3	462	962.8	374	6,652	472	18
348	YAMAHA[2]	JAPAN	3,793.7	28.1‡	451	3,420.2	369	1,092.0	346	17,136	381	26
349	ORKEM[5]	FRANCE	3,756.1	358.9	170	3,777.6	335	1,297.9	306	13,196	414	5
350	EFIM[5]	ITALY	3,753.9[7]	(18.2)[7]	473	N.A.		985.8[7]	367	38,000	204	15

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THE WORLD'S BIGGEST INDUSTRIAL CORPORATIONS

1989			SALES	PROFITS		ASSETS		STOCKHOLDERS' EQUITY		EMPLOYEES		INDUSTRY TABLE NUMBER
			$ Millions	$ Millions	Rank	$ Millions	Rank	$ Millions	Rank	Number	Rank	
351	MITSUI TOATSU CHEMICALS[2]	JAPAN	3,748.6	125.9	346	4,378.7	298	500.5	447	10,400	442	5
352	HINDUSTAN PETROLEUM[2,5]	INDIA	3,746.1	120.2	355	998.7	493	317.3	476	9,118	452	18
353	PACIFIC DUNLOP[1]	AUSTRALIA	3,719.1	(81.1)‡	482	3,109.2	392	826.2	397	44,753	171	17
354	KONICA[27]	JAPAN	3,715.6	15.4	464	3,912.8	325	1,300.5	305	21,430	336	22
355	CODELCO-CHILE[5]	CHILE	3,711.0	756.6	75	4,956.6	271	2,314.8	194	26,082	289	16
356	OWENS-ILLINOIS	U.S.	3,692.0	(108.1)	486	5,098.3	262	(97.7)	492	47,000	158	4
357	JOHNSON CONTROLS[3]	U.S.	3,689.6	97.5	374	2,415.0	444	977.9	371	42,600	182	10
358	ASAHI BREWERIES	JAPAN	3,661.5	27.3	452	8,186.1	163	1,777.1	241	6,923	467	3
359	AMERICAN STANDARD	U.S.	3,631.4	(46.2)	477	3,541.9	360	72.9	487	33,300	239	4
360	LEVI STRAUSS ASSOCIATES[13]	U.S.	3,627.9	272.3	215	2,020.0	463	394.5	465	31,000	254	2
361	LUCAS INDUSTRIES[22]	BRITAIN	3,565.7	235.1	246	2,986.8	407	1,342.3	301	55,957	128	17
362	GRUMMAN	U.S.	3,558.8	67.3	409	2,591.1	429	855.2	390	28,900	267	1
363	NOBEL INDUSTRIES	SWEDEN	3,556.1	213.9	270	4,580.8	286	779.5	407	22,246	327	5
364	PETRONAS[2,5]	MALAYSIA	3,533.0	252.6‡	232	8,481.3	158	4,659.5	83	7,562	463	18
365	GANNETT	U.S.	3,523.2	397.5	154	3,782.8	333	1,995.8	214	32,900	242	20
366	HAWKER SIDDELEY GROUP	BRITAIN	3,518.4	174.9‡	303	3,204.9	382	1,255.6	318	42,600	183	11
367	TIMES MIRROR	U.S.	3,517.5	298.0	196	3,947.5	320	1,877.2	225	29,066	266	20
368	CUMMINS ENGINE	U.S.	3,510.8	(6.1)	471	2,030.8	461	559.2	441	25,100	302	11
369	NISSHIN STEEL[2]	JAPAN	3,488.3	243.4	243	6,002.2	215	1,214.7	323	8,334	457	14
370	GUINNESS	BRITAIN	3,485.6	657.5‡	90	10,005.1	124	5,421.5	65	18,106	373	3
371	SUMITOMO RUBBER	JAPAN	3,481.4	48.0	430	3,108.2	393	348.8	472	20,000	352	21
372	MATRA	FRANCE	3,475.7	94.9	376	5,345.9	249	463.4	451	21,242	338	1
373	GKN	BRITAIN	3,467.1	200.4	281	2,844.7	414	1,073.8	350	35,900	217	17
374	FMC	U.S.	3,461.0	136.4	339	2,819.0	415	(70.6)	490	24,110	312	5
375	SNECMA[5]	FRANCE	3,459.1	46.2	432	4,967.8	269	735.4	414	25,851	291	1
376	SANYO-KOKUSAKU PULP[2]	JAPAN	3,455.0	83.1	393	3,192.1	385	854.3	391	7,719	462	9
377	TOYODA AUTOMATIC LOOM WORKS[2]	JAPAN	3,454.8[8]	99.9[8]	371	2,341.2[8]	447	1,173.4[8]	329	6,837[8]	469	17
378	INGERSOLL-RAND	U.S.	3,447.4	210.8	272	2,594.6	428	1,376.9	292	31,623	249	11
379	KF INDUSTRI	SWEDEN	3,423.4	22.9	458	2,322.7	449	373.9	470	13,695	408	18
380	AVON PRODUCTS	U.S.	3,395.9	54.6	419	2,098.0	458	228.3	483	28,400	269	23
381	HONSHU PAPER[2]	JAPAN	3,380.9	29.9	448	3,730.6	340	397.4	463	7,546	464	9
382	SANKYO[2]	JAPAN	3,376.0	107.9	365	3,065.9	398	1,329.3	302	5,979	479	19
383	PACCAR	U.S.	3,372.9	241.9	244	3,067.1	397	1,007.3	362	13,077	416	17
384	CMB PACKAGING[28]	FRANCE	3,344.1	177.5	299	4,421.6	293	1,564.8	268	33,698	234	14
385	DOFASCO	CANADA	3,328.8[4]	184.0	291	4,396.2	295	1,950.6	219	22,700	323	15
386	PIONEER ELECTRONIC[2]	JAPAN	3,327.7[7]	144.6[7]	332	2,434.6	443	1,415.4	288	12,919	418	7
387	PROCORDIA[5]	SWEDEN	3,293.3	221.6‡	258	3,135.3	389	1,325.1	303	27,844	275	19
388	INTEL	U.S.	3,280.7	391.0	156	3,994.0	318	2,548.8	168	22,200	328	7
389	INTERCO[19]	U.S.	3,277.8	70.1	406	1,775.3	477	(1,005.8)	496	46,900	160	10
390	DAIDO STEEL[2]	JAPAN	3,258.4	57.1	416	3,057.6	400	794.3	402	10,445	440	15
391	ZAHNRADFABRIK FRIEDRICHSHAFEN	W. GERMANY	3,254.4	38.4	441	2,366.3	445	374.1	469	34,559	226	17
392	TDK[2]	JAPAN	3,252.9[7]	164.8[7]	316	3,767.3	336	2,153.3	199	19,361	359	7
393	COOKSON GROUP	BRITAIN	3,245.5	172.2	306	2,443.7	441	886.4	388	16,305	386	15
394	SCHERING-PLOUGH	U.S.	3,243.0	471.3	128	3,613.5	350	1,955.4	218	21,300	337	19
395	AGWAY[1,29]	U.S.	3,234.8	N.A.		1,701.3	479	255.2	481	15,100	398	8
396	BLACK & DECKER[3,30]	U.S.	3,221.3	30.0	446	6,258.1	210	720.7	417	38,600	199	11
397	MITSUBISHI PETROCHEMICAL[2]	JAPAN	3,209.1[7]	203.8[7]	276	4,057.2	315	983.8	368	3,770	490	5
398	ITOHAM FOODS[2]	JAPAN	3,198.2[7]	53.9[7]	421	1,690.1	480	783.2	406	6,746	470	8
399	SHISEIDO[2]	JAPAN	3,190.5[7]	81.5[7]	395	3,954.7	319	1,865.6	227	19,000	365	23
400	SHIN-ETSU CHEMICAL[2]	JAPAN	3,183.3	216.3	265	3,528.5	363	1,244.9	319	10,419	441	5

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THE WORLD'S BIGGEST INDUSTRIAL CORPORATIONS

1989			SALES	PROFITS		ASSETS		STOCKHOLDERS' EQUITY		EMPLOYEES		INDUSTRY TABLE NUMBER
			$ Millions	$ Millions	Rank	$ Millions	Rank	$ Millions	Rank	Number	Rank	
401	MASCO	U.S.	3,150.5	220.9	259	3,640.8	347	1,858.4	228	42,000	186	14
402	MEIJI MILK PRODUCTS[2]	JAPAN	3,145.7	24.2	456	1,313.2	487	393.7	466	7,500	465	8
403	HEINEKEN	NETHERLANDS	3,145.1[4]	153.5	325	3,731.9	339	1,546.8	272	29,127	265	3
404	R.R. DONNELLEY & SONS	U.S.	3,127.6	221.9	257	2,507.3	433	1,445.8	281	26,100	288	20
405	YAMAZAKI BAKING	JAPAN	3,125.0[14]	71.6	405	1,859.1	474	954.3	378	16,410	384	8
406	KERR-MCGEE	U.S.	3,122.0	156.0	323	3,332.0	374	1,476.0	278	7,942	460	18
407	HERCULES	U.S.	3,121.3	(81.3)	483	3,653.2	346	1,897.2	223	23,290	321	5
408	COATS VIYELLA	BRITAIN	3,121.2	131.8	343	2,679.6	423	1,213.5	325	63,598	111	24
409	SCHERING	W. GERMANY	3,107.5	119.7	356	3,639.9	348	1,346.4	300	25,332	299	19
410	SOURCE PERRIER	FRANCE	3,090.6	41.7‡	436	N.A.		N.A.		N.A.		3
411	ONODA CEMENT[2]	JAPAN	3,089.4	90.5	384	3,871.5	328	699.0	419	6,890	468	4
412	MAYTAG[31]	U.S.	3,088.8	131.5	344	2,436.3	442	938.2	382	26,019	290	7
413	VALEO	FRANCE	3,080.4	146.8	331	3,150.8	387	1,011.1	361	34,200	229	17
414	WANG LABORATORIES[1]	U.S.	3,078.4	(424.3)	491	2,725.7	419	1,130.8	336	28,334	272	6
415	DASSAULT AVIATION[32]	FRANCE	3,062.0	91.4	381	6,078.2	212	592.5	437	15,572	394	1
416	HOLDERBANK FINANCIERE GLARIS	SWITZERLAND	3,041.3[4]	171.3	309	5,868.4	221	1,895.7	224	25,308	300	4
417	TOYO SASH[2]	JAPAN	3,040.2[7]	165.9[7]	314	3,050.6	403	1,267.5	317	8,588	455	14
418	RANKS HOVIS MCDOUGALL[11]	BRITAIN	3,036.9	101.5‡	369	2,261.5	454	1,419.8	287	39,000	197	8
419	HONAM OIL REFINERY	SOUTH KOREA	3,029.9	39.5	439	1,913.1	468	385.1	468	2,048	494	18
420	UPJOHN	U.S.	3,001.2	176.0	300	3,246.9	380	1,736.1	249	20,100	348	19
421	SANDVIK	SWEDEN	3,001.0	404.6	153	3,637.3	349	1,590.1	265	26,779	280	14
422	OWENS-CORNING FIBERGLAS	U.S.	3,000.0	172.0	307	1,924.0	466	(435.0)	494	18,300	371	4
423	MO OCH DOMSJO	SWEDEN	2,992.4	159.5**	318	4,229.6	306	645.6	430	13,414	411	9
424	FARMLAND INDUSTRIES[29,33]	U.S.	2,976.9	N.A.		1,182.4	489	458.5	454	6,275	475	8
425	BORAL	AUSTRALIA	2,975.4	252.1	233	2,573.1	431	1,214.6	324	25,000	303	4
426	LVMH	FRANCE	2,972.6	460.0	131	5,480.6	242	2,448.7	176	13,732	407	3
427	COAL INDIA[2,5]	INDIA	2,963.2	(15.8)	472	5,675.3	226	1,745.4	246	670,440	2	16
428	PITNEY BOWES	U.S.	2,959.3	252.8	231	5,611.1	231	1,428.3	284	31,404	250	6
429	ALPS ELECTRIC[2]	JAPAN	2,955.2	42.0	435	2,917.4	408	993.0	366	14,157	405	7
430	CONTROL DATA	U.S.	2,952.1	(680.4)	495	1,860.7	473	411.5	460	18,000	374	6
431	REVLON GROUP	U.S.	2,941.8	52.8	424	3,543.1	358	794.2	403	34,800	224	23
432	UNIVERSAL[1]	U.S.	2,920.3	54.0	420	1,062.1	491	386.4	467	20,000	350	25
433	OMRON[2,34]	JAPAN	2,903.3	147.8**	329	2,752.0	416	1,367.0	293	15,047	399	7
434	OERLIKON-BÜHRLE	SWITZERLAND	2,902.9	(25.2)	475	5,533.2	236	1,847.1	229	27,326	276	11
435	LINDE	W. GERMANY	2,899.3	95.6	375	2,665.6	424	1,042.1	354	25,679	294	11
436	SUMITOMO HEAVY INDUSTRIES[2]	JAPAN	2,897.0	32.7	445	3,574.9	356	500.7	446	10,000	445	11
437	ULTRAMAR	BRITAIN	2,882.0	167.6	313	3,671.5	344	1,556.4	270	3,792	489	18
438	COMPAQ COMPUTER	U.S.	2,876.1	333.3	182	2,090.4	459	1,171.6	330	9,700	448	6
439	DEUTSCHE BABCOCK[3]	W. GERMANY	2,872.9	4.7	469	1,448.3	485	363.7	471	23,586	318	14
440	ARMSTRONG WORLD INDUSTRIES	U.S.	2,864.0	187.6	287	2,033.0	460	976.5	372	25,607	295	24
441	DAISHOWA PAPER[2]	JAPAN	2,857.5	62.6	412	4,930.7	272	446.3	456	7,741	461	9
442	ERCROS[35]	SPAIN	2,847.3	144.1**	333	3,103.7	394	1,118.9	341	17,300	378	5
443	NISSHIN FLOUR MILLING[2]	JAPAN	2,841.9	59.7	415	1,559.6	483	642.5	431	4,345	487	8
444	CSR[2]	AUSTRALIA	2,827.8	250.5	238	4,132.8	310	1,822.4	233	18,266	372	4
445	BRUNSWICK	U.S.	2,826.1	(71.3)	480	1,984.8	465	776.1	408	25,800	292	27
446	SAARBERGWERKE	W. GERMANY	2,821.4	14.6	466	2,690.8	422	348.6	473	24,073	314	16
447	AMP	U.S.	2,820.5	280.9	210	2,529.8	432	1,625.4	260	24,400	310	7
448	RACAL ELECTRONICS[2]	BRITAIN	2,811.1	701.5**	85	2,860.7	412	1,292.5	307	33,702	232	7
449	RAUMA-REPOLA	FINLAND	2,795.2	109.9	364	3,881.3	327	1,168.5	331	19,430	358	14
450	BHARAT PETROLEUM[2,5]	INDIA	2,792.6	72.5	403	1,057.7	492	277.4	479	10,578	437	18

The definitions and concepts underlying the figures in this directory are explained on page 316. Footnotes appear on page 296.

THE WORLD'S BIGGEST INDUSTRIAL CORPORATIONS

451-500

1989			SALES	PROFITS		ASSETS		STOCK-HOLDERS' EQUITY		EMPLOYEES		INDUSTRY TABLE NUMBER
			$ Millions	$ Millions	Rank	$ Millions	Rank	$ Millions	Rank	Number	Rank	
451	NISSAN SHATAI[2]	JAPAN	2,789.5[8]	17.1[8]	463	1,065.8[8]	490	459.9[8]	453	5,078[8]	485	17
452	PIONEER INTERNATIONAL[1]	AUSTRALIA	2,779.3	125.4	347	2,652.9	425	1,081.7	349	9,897	447	18
453	WHITBREAD[1,9]	BRITAIN	2,768.0	287.1	203	5,529.0	237	3,796.5	112	54,192	136	3
454	UNION CAMP	U.S.	2,761.3	299.4	194	3,417.3	370	1,755.3	243	18,646	367	9
455	ZAMBIA INDUSTRIAL & MINING[2,5]	ZAMBIA	2,755.8[7]	N.A.		N.A.		N.A.		N.A.		16
456	ETHYL	U.S.	2,754.9	231.3	248	5,631.7	229	901.3	384	5,500	481	5
457	ABITIBI-PRICE	CANADA	2,751.0	45.8	433	2,298.0	452	1,063.4	351	15,600	393	9
458	MOORE	CANADA	2,750.6	201.7	279	2,008.3	464	1,441.0	283	26,359	285	20
459	PENNZOIL	U.S.	2,750.0	103.5	367	4,882.0	274	1,282.0	311	10,700	435	18
460	REED INTERNATIONAL[2]	BRITAIN	2,749.3	881.0••	65	3,797.1	329	2,476.7	173	22,100	329	20
461	OUTOKUMPU[5]	FINLAND	2,743.0	180.0	295	3,258.9	379	1,021.1	358	15,880	392	15
462	PHELPS DODGE	U.S.	2,726.4	267.0	219	2,504.6	434	1,350.1	297	13,288	412	15
463	KYOCERA[2]	JAPAN	2,724.9	230.6	250	3,927.7	324	2,744.0	156	19,192	362	7
464	KLÖCKNER-WERKE[3]	W. GERMANY	2,713.2	(102.6)‡	485	2,738.9	418	275.9	480	30,096	260	15
465	MITSUBISHI MINING & CEMENT[2]	JAPAN	2,702.2	38.7	440	3,276.8	378	568.5	440	6,459	474	4
466	NIXDORF COMPUTER	W. GERMANY	2,687.5	(566.5)	493	2,489.7	435	994.3	364	28,525	268	6
467	AIR PRODUCTS & CHEMICALS[3]	U.S.	2,662.3	222.1	256	3,365.7	373	1,444.9	282	14,100	406	5
468	ROHM & HAAS	U.S.	2,661.0	176.0	302	2,455.0	440	1,311.0	304	13,040	417	5
469	TABACALERA[5]	SPAIN	2,653.5[8]	87.4[8]	387	1,538.0[8]	484	569.5[8]	439	8,378[8]	456	25
470	QUANTUM CHEMICAL	U.S.	2,636.5	247.4	239	3,003.8	406	(172.3)	493	10,000	444	5
471	SABIC[5]	SAUDI ARABIA	2,629.6	953.3	53	8,004.1	166	3,627.7	116	8,938	453	5
472	YOKOHAMA RUBBER	JAPAN	2,628.0	64.3	411	2,695.0	421	397.1	464	11,073	432	21
473	KYMMENE	FINLAND	2,626.4	241.7	245	5,107.7	261	2,151.8	200	16,132	388	9
474	KANTO AUTO WORKS[2]	JAPAN	2,617.5[8]	24.6[8]	455	782.8[8]	496	203.5[8]	485	5,877[8]	480	17
475	MORINAGA MILK INDUSTRY[2]	JAPAN	2,616.0	29.8	449	1,378.5	486	418.8	459	4,930	486	8
476	ZENITH ELECTRONICS	U.S.	2,610.7	(68.4)	479	918.3	495	398.2	462	32,000	247	7
477	UNITIKA[2]	JAPAN	2,608.2	28.7	450	2,468.9	437	206.0	484	6,208	477	24
478	ENTREPRISE MINIÈRE & CHIMIQUE[5]	FRANCE	2,607.4	41.2	437	2,301.5	451	298.3	478	13,139	415	5
479	ESSELTE	SWEDEN	2,605.4	53.1‡	423	2,199.9	455	322.2	475	19,552	355	6
480	PREMARK INTERNATIONAL	U.S.	2,600.6	78.4	397	1,757.2	478	800.6	401	24,700	306	21
481	RECKITT & COLMAN	BRITAIN	2,580.4	201.6‡	280	1,836.1	475	955.1	377	22,000	330	23
482	NATIONAL STEEL[36]	U.S.	2,576.6	83.2	392	1,806.6	476	733.0	415	12,000	425	15
483	DOOSAN	SOUTH KOREA	2,568.6	23.7	457	2,632.7	426	617.4	435	16,540	383	3
484	KEMIRA[5]	FINLAND	2,568.2	40.9	438	3,592.5	355	753.0	411	15,982	391	5
485	WEST POINT-PEPPERELL[3]	U.S.	2,567.7	(19.3)	474	3,505.0	365	1,643.0	257	N.A.		24
486	NIPPON SEIKO[2]	JAPAN	2,548.9[7]	86.1[7]	391	3,309.2	376	1,552.6	271	11,941	427	17
487	GOODMAN FIELDER WATTIE[1]	AUSTRALIA	2,544.8	258.7••	227	3,134.3	390	1,044.9	353	25,000	304	8
488	NISSAN DIESEL MOTOR[2]	JAPAN	2,544.7	14.7	465	2,463.0	438	401.3	461	5,105	484	17
489	VF	U.S.	2,540.0	176.0	301	1,889.8	470	819.8	398	45,000	170	2
490	TYSON FOODS[3]	U.S.	2,538.2	100.6	370	2,586.1	430	447.7	455	42,000	187	8
491	SSAB SVENSKT STÅL	SWEDEN	2,532.8	140.9	335	2,160.6	456	696.0	421	12,153	423	15
492	JOHNSON MATTHEY[2]	BRITAIN	2,531.3	113.5••	362	957.7	494	542.8	443	7,179	466	14
493	OLIN	U.S.	2,530.0	124.0	349	1,904.0	469	665.0	428	15,400	395	5
494	B.F. GOODRICH	U.S.	2,520.7	172.4	305	2,274.4	453	1,277.2	312	11,892	428	5
495	PARKER HANNIFIN[1]	U.S.	2,520.2	124.5	348	1,922.5	467	840.5	393	33,463	237	11
496	BURMAH OIL	BRITAIN	2,518.8	186.7••	289	1,888.0	471	945.9	381	11,388	429	18
497	ENSO-GUTZEIT[5]	FINLAND	2,505.7	203.1	277	4,494.6	288	1,462.6	279	17,915	375	9
498	MCDERMOTT INTERNATIONAL[2]	PANAMA	2,495.8	(91.7)	484	3,293.6	377	597.1	436	28,000	274	11
499	ARMCO	U.S.	2,494.4	165.0	315	2,489.1	436	1,026.8	355	10,500	438	15
500	DAF TRUCKS	NETHERLANDS	2,484.0	81.0	396	1,881.1	472	617.9	434	16,637	382	17
	TOTALS		4,591,153.5	214,639.9		4,868,881.1		1,520,913.0		26,638,437		–

The definitions and concepts underlying the figures in this directory are explained on page 316. Footnotes appear on page 296.

THE MOST PROFITABLE, 1989

THE TEN HIGHEST RETURNS ON ASSETS

	SALES RANK	
VALE DO RIO DOCE	294	45.5%
PETRÓLEOS DE VENEZUELA	76	30.5
LYONDELL PETROCHEMICAL	246	29.5
RACAL ELECTRONICS	448	24.5
REED INTERNATIONAL	460	23.2
MERCK	193	22.1
GLAXO HOLDINGS	303	22.0
COCA-COLA	136	20.8
INCO	334	20.6
DE BEERS CONSOLIDATED MINES	327	19.5
THE 500 MEDIAN		4.3

THE TEN HIGHEST RETURNS ON SALES

VALE DO RIO DOCE	294	65.1%
DE BEERS CONSOLIDATED MINES	327	38.3
SABIC	471	36.3
REED INTERNATIONAL	460	32.0
GLAXO HOLDINGS	303	26.8
RACAL ELECTRONICS	448	25.0
OIL & NATURAL GAS COMMISSION	275	23.0
ELI LILLY	317	22.5
MERCK	193	22.3
CHINESE PETROLEUM	159	22.2
THE 500 MEDIAN		4.0

THE MOST PRODUCTIVE, 1989

THE TEN HIGHEST IN SALES PER EMPLOYEE

LYONDELL PETROCHEMICAL	246	$2,596,135
COSMO OIL	130	2,564,427
IDEMITSU KOSAN	99	2,125,712
NIPPON OIL	71	1,506,120
HONAM OIL REFINERY	419	1,479,446
MITSUBISHI OIL	339	1,170,668
TONEN	271	1,160,928
TAIYO FISHERY	151	1,042,326
TEXACO	23	874,525
MITSUBISHI PETROCHEM.	397	851,218

THE FIVE LOWEST

VF	489	56,444
WHITBREAD	453	51,078
COATS VIYELLA	408	49,077
STEEL AUTHORITY OF INDIA	308	21,759
COAL INDIA	427	4,420
THE 500 MEDIAN		167,673

THE TEN HIGHEST IN SALES PER DOLLAR OF STOCKHOLDERS' EQUITY

LYONDELL PETROCHEMICAL	246	597.11%
GILLETTE	346	54.99
AMERICAN STANDARD	359	49.78
KANEBO	268	38.39
IDEMITSU KOSAN	99	34.36
TAIYO FISHERY	151	26.57
FRIED. KRUPP	133	20.32
COSMO OIL	130	18.82
NIPPON LIGHT METAL	321	16.85
SHOWA SHELL SEKIYU	152	16.50

THE FIVE LOWEST

WHITBREAD	453	.73
SABIC	471	.72
GUINNESS	370	.64
PEMEX (PETRÓLEOS MEX.)	65	.63
DE BEERS CONSOL. MINES	327	.62
THE 500 MEDIAN		3.14

THE MONEY LOSERS

	SALES RANK	LOSS
RJR NABISCO HOLDINGS	66	$1,149.0
BOND CORP. HOLDINGS	228	799.8
CONTROL DATA	430	680.4
UNISYS	115	639.3
NIXDORF COMPUTER	466	566.5
SIDERBRAS	280	470.7*
WANG LABORATORIES	414	424.3
BRITISH COAL	169	359.0*
FRIED. KRUPP	133	272.3*
TIME WARNER	167	256.0
WICKES	277	122.5
OWENS-ILLINOIS	356	108.1*
KLÖCKNER-WERKE	464	102.6
MCDERMOTT INTERNATIONAL	498	91.7*
HERCULES	407	81.3
PACIFIC DUNLOP	353	81.1*
NORTHROP	256	80.5
BRUNSWICK	445	71.3
ZENITH ELECTRONICS	476	68.4
BORDEN	170	60.6
AMERICAN STANDARD	359	46.2*
BULL	257	41.8
OERLIKON-BÜHRLE	434	25.2
WEST POINT-PEPPERELL	485	19.3
EFIM	350	18.2
COAL INDIA	427	15.8*
CUMMINS ENGINE	368	6.1*

*Also lost money in 1988.

FOOTNOTES TO THE 500

** Reflects an extraordinary credit of at least 10%; see the explanations of "profits."

N.A. Not available.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "profits."

1

[1] Figures are for fiscal year ended June 30, 1989.

[2] Figures are for fiscal year ended March 31, 1989.

[3] Figures are for fiscal year ended September 30, 1989.

[4] Figure includes some significant subsidiaries owned 50% or less, either fully or on a prorated basis.

[5] Government owned.

[6] Figures include Sheller-Globe, acquired November 9, 1989.

[7] Figure is a FORTUNE estimate.

[8] Figures are unconsolidated.

[9] Name changed from RJR Nabisco.

10

[10] Figures are for fiscal year ended October 31, 1989.

[11] Figures include Apollo, acquired May 18, 1989.

[12] Figures are for fiscal year ended May 31, 1989.

[13] Figures are for fiscal year ended November 30, 1989.

[14] Figure excludes some subsidiaries more than 50% owned.

[15] Figures include Squibb, acquired October 4, 1989.

[16] Name changed from Beecham Group upon merger with SmithKline Beckman.

[17] Figures include Warner Communications, acquired July 24, 1989.

[18] Figures are for fiscal year ended October 20, 1989.

[19] Figures are for fiscal year ended February 28, 1989.

20

[20] Figures include A.H. Robins, acquired December 15, 1989.

[21] Figures are for fiscal year ended April 30, 1989.

[22] Figures are for fiscal year ended July 31, 1989.

[23] Figures include Champion Spark Plug, acquired March 23, 1989.

[24] Name changed from Toa Nenryo Kogyo KK.

[25] Figures are for fiscal year ended January 31, 1989.

[26] Owned by American Financial.

[27] Figures are for fiscal year ended April 20, 1989.

[28] Name changed from Carnaud.

[29] Cooperatives provide only net margin figures, which are not comparable to the profit figures on this list.

30

[30] Figures include Emhart, acquired July 18, 1989.

[31] Figures include Chicago Pacific, acquired January 26, 1989.

[32] Name changed from Avions Marcel Dassault–Breguet Aviation.

[33] Figures are for fiscal year ended August 31, 1989.

[34] Name changed from Omron Tateisi Electronics.

[35] Name changed from Unión Explosivos Rio Tinto.

[36] Owned by National Intergroup.

THE 500 BY COUNTRY

	1-100	101-200	201-300	301-400	401-500	TOTAL	LARGEST COMPANY	SALES $ millions	RANK
AUSTRALIA	0	2	2	2	4	10	ELDERS IXL	10,338.7	112
BELGIUM	1	1	1	0	0	3	PETROFINA	11,269.7	98
BRAZIL	1	0	2	0	0	3	PETROBRÁS	16,359.9	58
BRITAIN	7	7	9	11	9	43	BRITISH PETROLEUM	49,484.4	10
BRITAIN/NETHERLANDS	2	0	0	0	0	2	ROYAL DUTCH/SHELL GROUP	85,527.9	4
CANADA	0	3	2	6	2	13	CANADIAN PACIFIC	9,306.3	134
CHILE	0	0	0	1	0	1	CODELCO-CHILE	3,711.0	355
FINLAND	0	1	1	0	5	7	NESTE	8,123.9	154
FRANCE	9	4	6	5	5	29	RENAULT	27,456.9	27
INDIA	0	1	1	2	2	6	INDIAN OIL	10,609.7	106
ITALY	5	1	0	1	0	7	IRI	49,077.2	11
ITALY/SWITZERLAND	0	1	0	0	0	1	PIRELLI	7,541.5	170
JAPAN	17	26	22	28	18	111	TOYOTA MOTOR	60,443.6	6
KUWAIT	1	0	0	0	0	1	KUWAIT PETROLEUM	11,796.5	92
LUXEMBOURG	0	0	1	0	0	1	ARBED	5,824.2	224
MALAYSIA	0	0	0	1	0	1	PETRONAS	3,533.0	364
MEXICO	1	0	0	0	0	1	PEMEX (PETRÓLEOS MEXICANOS)	15,257.8	65
NETHERLANDS	1	1	1	1	2	6	PHILIPS	24,992.5	29
NETHERLANDS ANTILLES	0	0	1	0	0	1	SCHLUMBERGER	4,843.7	273
NEW ZEALAND	0	1	0	0	0	1	FLETCHER CHALLENGE	6,571.7	199
NORWAY	0	2	0	0	0	2	NORSK HYDRO	9,599.0	129
PANAMA	0	0	0	0	1	1	MCDERMOTT INTERNATIONAL	2,495.8	498
SAUDI ARABIA	0	0	0	0	1	1	SABIC	2,629.6	471
SOUTH AFRICA	0	1	0	1	0	2	BARLOW RAND	10,417.7	108
SOUTH KOREA	2	2	4	1	2	11	SAMSUNG	35,189.1	20
SPAIN	1	1	0	1	2	5	INI	15,277.4	64
SWEDEN	2	2	1	6	4	15	VOLVO	14,637.7	70
SWITZERLAND	3	1	2	2	2	10	NESTLÉ	29,364.8	26
TAIWAN	0	1	0	0	0	1	CHINESE PETROLEUM	8,008.2	159
TURKEY	0	0	3	0	0	3	KOÇ HOLDING	6,414.9	203
UNITED STATES	35	34	34	30	34	167	GENERAL MOTORS	126,974.3	1
VENEZUELA	1	0	0	0	0	1	PETRÓLEOS DE VENEZUELA	13,677.3	76
WEST GERMANY	11	7	7	1	6	32	DAIMLER-BENZ	40,616.0	13
ZAMBIA	0	0	0	0	1	1	ZAMBIA INDUSTRIAL & MINING	2,755.8	455

THE TEN COUNTRIES WITH THE MOST COMPANIES AND THEIR TOP TEN	SALES $ millions	Global 500 rank	PROFITS $ millions	Global 500 rank
1 AUSTRALIA				
ELDERS IXL	10,338.7	112	513.8	121
BROKEN HILL PROPRIETARY	9,127.2	137	924.6	60
NEWS CORP.	6,453.0	202	949.5	55
BOND CORP. HOLDINGS	5,779.9	228	(799.8)	496
CRA	4,026.7	328	514.0	120
PACIFIC DUNLOP	3,719.1	353	(81.1)	482
BORAL	2,975.4	425	252.1	233
CSR	2,827.8	444	250.5	238
PIONEER INTERNATIONAL	2,779.3	452	125.4	347
GOODMAN FIELDER WATTIE	2,544.8	487	258.7	227
2 BRITAIN				
BRITISH PETROLEUM	49,484.4	10	3,498.8	8
BAT INDUSTRIES	23,528.9	36	2,123.2	17
IMPERIAL CHEMICAL IND.	21,889.4	40	1,733.0	23
BRITISH AEROSPACE	14,895.2	69	382.0	160
GRAND METROPOLITAN	14,274.6	73	1,805.9	21
HANSON	11,833.0	91	1,861.7	19
BTR	11,544.0	94	1,082.1	44
GEC (GENERAL ELECTRIC CO.)	10,396.0	111	923.9	61
RTZ	10,093.0	116	1,359.2	34
BRITISH STEEL	8,676.9	147	992.2	50
3 CANADA				
CANADIAN PACIFIC	9,306.3	134	629.3	97
ALCAN ALUMINIUM	8,839.0	141	835.0	69
NORANDA	7,802.1	163	373.3	167
NORTHERN TELECOM	6,105.5	216	376.5	164
THOMSON CORP.	5,112.0	264	929.0	59
NOVA	4,087.3	325	157.1	320
JOHN LABATT	4,013.9	331	111.7	363
PETRO-CANADA	3,959.7	332	26.2	454
INCO	3,948.0	334	753.4	76
SEAGRAM	3,934.7	337	589.5	101
4 FRANCE				
RENAULT	27,456.9	27	1,457.3	32
PEUGEOT	24,090.5	35	1,616.1	27
ELF AQUITAINE	23,501.4	37	1,132.4	39
CGE (CIE GÉNÉRALE D'ÉLECTRICITÉ)	22,575.0	39	774.5	72
TOTAL	16,926.8	55	346.1	177
USINOR-SACILOR	15,630.1	61	1,061.0	48
PECHINEY	13,986.8	75	523.5	115
THOMSON	12,027.1	86	78.0	398
RHÔNE-POULENC	11,463.1	95	642.0	95
SAINT-GOBAIN	10,403.1	110	676.3	88
5 JAPAN				
TOYOTA MOTOR	60,443.6	6	2,631.1	12
HITACHI	50,894.0	9	1,446.7	33
MATSUSHITA ELECTRIC INDUSTRIAL	43,086.0	12	1,664.0	26
NISSAN MOTOR	36,078.4	17	889.7	64
TOSHIBA	29,469.3	24	930.8	58
HONDA MOTOR	26,484.3	30	758.5	74
NEC	24,594.8	32	502.6	123
MITSUBISHI ELECTRIC	21,213.3	42	415.0	146
NIPPON STEEL	20,767.0	44	607.9	98
FUJITSU	18,734.1	49	541.1	110

THE TEN COUNTRIES WITH THE MOST COMPANIES AND THEIR TOP TEN	SALES $ millions	Global 500 rank	PROFITS $ millions	Global 500 rank
6 SOUTH KOREA				
SAMSUNG	35,189.1	20	515.1	119
DAEWOO	19,981.4	47	114.5	360
SUNKYONG	9,014.0	139	154.3	324
SSANGYONG	7,421.8	173	171.9	308
POHANG IRON & STEEL	6,471.9	201	214.3	269
HYUNDAI MOTOR	5,845.1	221	62.1	413
HYOSUNG	4,782.4	278	21.5	460
HYUNDAI HEAVY INDUSTRIES	4,428.9	300	94.3	377
GOLDSTAR	3,863.0	344	26.7	453
HONAM OIL REFINERY	3,029.9	419	39.5	439
7 SWEDEN				
VOLVO	14,637.7	70	836.9	68
ELECTROLUX	13,299.8	77	355.1	173
SAAB-SCANIA	7,219.0	181	156.4	322
STORA KOPPARBERGS BERGSLAGS	6,549.9	200	250.8	237
L.M. ERICSSON	6,249.6	212	327.0	185
TRELLEBORG	4,351.6	305	286.9	204
SVENSKA CELLULOSA	3,935.5	335	250.8	236
SKF	3,884.6	342	216.8	264
NOBEL INDUSTRIES	3,556.1	363	213.9	270
KF INDUSTRI	3,423.4	379	22.9	458
8 SWITZERLAND				
NESTLÉ	29,364.8	26	1,474.5	31
ASEA BROWN BOVERI	21,209.0	43	589.0	102
CIBA-GEIGY	12,597.9	81	951.8	54
SANDOZ	7,766.1	165	585.6	104
ROCHE/SAPAC	6,369.8	204	520.8	118
ALUSUISSE	4,567.1	291	284.9	207
SULZER BROTHERS	4,088.4	324	74.0	400
JACOBS SUCHARD	4,077.1	326	168.2	312
HOLDERBANK	3,041.3	416	171.3	309
OERLIKON-BÜHRLE	2,902.9	434	-25.2	475
9 UNITED STATES				
GENERAL MOTORS	126,974.3	1	4,224.3	2
FORD MOTOR	96,932.6	2	3,835.0	4
EXXON	86,656.0	3	3,510.0	7
INT'L BUSINESS MACHINES	63,438.0	5	3,758.0	5
GENERAL ELECTRIC	55,264.0	7	3,939.0	3
MOBIL	50,976.0	8	1,809.0	20
PHILIP MORRIS	39,069.0	14	2,946.0	9
CHRYSLER	36,156.0	16	359.0	169
E.I. DU PONT DE NEMOURS	35,209.0	19	2,480.0	14
TEXACO	32,416.0	23	2,413.0	15
10 WEST GERMANY				
DAIMLER-BENZ	40,616.0	13	3,584.6	6
VOLKSWAGEN	34,746.4	21	523.2	116
SIEMENS	32,659.6	22	786.8	71
BASF	25,317.0	31	1,071.3	47
HOECHST	24,403.0	33	1,025.6	49
BAYER	23,021.2	38	1,107.5	42
THYSSEN	18,298.9	51	408.0	151
ROBERT BOSCH	16,263.0	59	332.8	183
BMW	14,097.7	74	296.2	197
RUHRKOHLE	12,422.1	83	30.0	447

INDUSTRY TABLE NUMBER	COMPANY COUNTRY	Global 500 Rank	RANKED WITHIN INDUSTRY							
			SALES		PROFITS		PROFITS AS A PERCENT OF			
							SALES		ASSETS	
			$ mil.	Rank	$ mil.	Rank	%	Rank	%	Rank
1	**AEROSPACE** 17 COMPANIES									
	BOEING U.S.	45	**20,276**	1	**973**	1	**5**	4	**7**	4
	UNITED TECHNOLOGIES U.S.	48	**19,766**	2	**702**	3	**4**	6	**5**	6
	MCDONNELL DOUGLAS U.S.	68	**14,995**	3	**219**	10	**1**	13	**2**	12
	BRITISH AEROSPACE BRITAIN	69	**14,895**	4	**382**	5	**3**	11	**3**	9
	ROCKWELL INTERNATIONAL U.S.	80	**12,633**	5	**735**	2	**6**	2	**8**	2
	ALLIED-SIGNAL U.S.	87	**12,021**	6	**528**	4	**4**	5	**5**	5
	GENERAL DYNAMICS U.S.	117	**10,053**	7	**293**	8	**3**	9	**4**	7
	LOCKHEED U.S.	120	**9,932**	8	**2**	16	**0**	16	**0**	16
	TEXTRON U.S.	172	**7,440**	9	**259**	9	**3**	7	**2**	10
	MARTIN MARIETTA U.S.	226	**5,814**	10	**307**	7	**5**	3	**9**	1
	AEROSPATIALE FRANCE	232	**5,736**	11	**20**	15	**0**	15	**0**	15
	NORTHROP U.S.	256	**5,200**	12	**(81)**	17	**(2)**	17	**(3)**	17
	ROLLS-ROYCE BRITAIN	272	**4,856**	13	**315**	6	**6**	1	**8**	3
	GRUMMAN U.S.	362	**3,559**	14	**67**	13	**2**	12	**3**	8
	MATRA FRANCE	372	**3,476**	15	**95**	11	**3**	10	**2**	11
	SNECMA FRANCE	375	**3,459**	16	**46**	14	**1**	14	**1**	14
	DASSAULT AVIATION FRANCE	415	**3,062**	17	**91**	12	**3**	8	**2**	13
	TOTAL		**157,173**		**4,955**		–		–	
	MEDIAN		**7,440**		**259**		**3**		**3**	
2	**APPAREL** 2 COMPANIES									
	LEVI STRAUSS ASSOCIATES U.S.	360	**3,628**	1	**272**	1	**8**	1	**13**	1
	VF U.S.	489	**2,540**	2	**176**	2	**7**	2	**9**	2
	TOTAL		**6,168**		**448**		–		–	
3	**BEVERAGES** 17 COMPANIES									
	PEPSICO U.S.	63	**15,420**	1	**901**	2	**6**	10	**6**	9
	ANHEUSER-BUSCH U.S.	131	**9,481**	2	**767**	3	**8**	8	**9**	3
	COCA-COLA U.S.	136	**9,171**	3	**1,724**	1	**19**	2	**21**	1
	ALLIED-LYONS BRITAIN	189	**6,871**	4	**601**	6	**9**	7	**6**	7
	BOND CORP. HOLDINGS AUSTRALIA	228	**5,780**	5	**(800)**	17	**(14)**	17	**(9)**	16
	BASS BRITAIN	238	**5,654**	6	**646**	5	**11**	5	**9**	2
	KIRIN BREWERY JAPAN	270	**4,971**	7	**220**	11	**4**	12	**3**	12
	CADBURY SCHWEPPES BRITAIN	285	**4,662**	8	**291**	9	**6**	9	**8**	4
	SEAGRAM CANADA	337	**3,935**	9	**589**	7	**15**	4	**6**	8
	COCA-COLA ENTERPRISES U.S.	341	**3,889**	10	**72**	13	**2**	13	**2**	13
	ASAHI BREWERIES JAPAN	358	**3,662**	11	**27**	15	**1**	16	**0**	15
	GUINNESS BRITAIN	370	**3,486**	12	**657**	4	**19**	1	**7**	6
	HEINEKEN NETHERLANDS	403	**3,145**	13	**154**	12	**5**	11	**4**	11
	SOURCE PERRIER FRANCE	410	**3,091**	14	**42**	14	**1**	14	–	
	LVMH FRANCE	426	**2,973**	15	**460**	8	**15**	3	**8**	5
	WHITBREAD BRITAIN	453	**2,768**	16	**287**	10	**10**	6	**5**	10
	DOOSAN SOUTH KOREA	483	**2,569**	17	**24**	16	**1**	15	**1**	14
	TOTAL		**91,525**		**6,663**		–		–	
	MEDIAN		**3,935**		**291**		**6**		**6**	
4	**BUILDING MATERIALS** 16 COMPANIES									
	HANSON BRITAIN	91	**11,833**	1	**1,862**	1	**16**	1	**11**	2
	BTR BRITAIN	94	**11,544**	2	**1,082**	2	**9**	2	**11**	1
	SAINT-GOBAIN FRANCE	110	**10,403**	3	**676**	3	**7**	8	**5**	9
	LAFARGE COPPÉE FRANCE	279	**4,765**	4	**341**	4	**7**	5	**5**	10
	UBE INDUSTRIES JAPAN	292	**4,553**	5	**151**	12	**3**	12	**2**	12
	PILKINGTON BRITAIN	293	**4,550**	6	**312**	5	**7**	6	**7**	6
	TRELLEBORG SWEDEN	305	**4,352**	7	**287**	6	**7**	7	**6**	8
	RMC GROUP BRITAIN	314	**4,215**	8	**262**	7	**6**	9	**10**	3
	OWENS-ILLINOIS U.S.	356	**3,692**	9	**(108)**	16	**(3)**	16	**(2)**	16
	AMERICAN STANDARD U.S.	359	**3,631**	10	**(46)**	15	**(1)**	15	**(1)**	15
	ONODA CEMENT JAPAN	411	**3,089**	11	**91**	13	**3**	13	**2**	13
	HOLDERBANK SWITZERLAND	416	**3,041**	12	**171**	11	**6**	11	**3**	11
	OWENS-CORNING U.S.	422	**3,000**	13	**172**	10	**6**	10	**9**	5
	BORAL AUSTRALIA	425	**2,975**	14	**252**	8	**8**	4	**10**	4
	CSR AUSTRALIA	444	**2,828**	15	**251**	9	**9**	3	**6**	7
	MITSUBISHI MINING & CEMENT JAPAN	465	**2,702**	16	**39**	14	**1**	14	**1**	14
	TOTAL		**81,174**		**5,795**		–		–	
	MEDIAN		**3,953**		**251**		**6**		**5**	
5	**CHEMICALS** 49 COMPANIES									
	E.I. DU PONT DE NEMOURS U.S.		**35,209**	1	**2,480**	2	**7**	16	**7**	14
	BASF W. GERMANY		**25,317**	2	**1,071**	5	**4**	33	**5**	25

INDUSTRY TABLE NUMBER	COMPANY COUNTRY		RANKED WITHIN INDUSTRY							
			SALES		PROFITS		PROFITS AS A PERCENT OF			
							SALES		ASSETS	
		Global 500 Rank	$ mil.	Rank	$ mil.	Rank	%	Rank	%	Rank
	HOECHST W. GERMANY	33	**24,403**	3	**1,026**	6	**4**	34	**5**	23
	BAYER W. GERMANY	38	**23,021**	4	**1,107**	4	**5**	31	**5**	24
	IMPERIAL CHEMICAL IND. BRITAIN	40	**21,889**	5	**1,733**	3	**8**	12	**10**	6
	DOW CHEMICAL U.S.	53	**17,730**	6	**2,487**	1	**14**	2	**11**	5
	CIBA-GEIGY SWITZERLAND	81	**12,598**	7	**952**	8	**8**	14	**6**	21
	RHÔNE-POULENC FRANCE	95	**11,463**	8	**642**	11	**6**	26	**4**	33
	ENIMONT ITALY	100	**11,191**	9	**522**	13	**5**	32	**4**	38
	NORSK HYDRO NORWAY	129	**9,599**	10	**389**	19	**4**	35	**3**	39
	AKZO NETHERLANDS	142	**8,838**	11	**450**	17	**5**	28	**6**	19
	UNION CARBIDE U.S.	144	**8,744**	12	**573**	12	**7**	22	**7**	15
	MONSANTO U.S.	146	**8,681**	13	**679**	9	**8**	13	**8**	11
	MITSUBISHI KASEI JAPAN	149	**8,649**	14	**157**	40	**2**	44	**1**	45
	ASAHI GLASS JAPAN	155	**8,088**	15	**427**	18	**5**	27	**5**	27
	SUMITOMO CHEMICAL JAPAN	186	**6,938**	16	**253**	27	**4**	40	**3**	40
	ROCHE/SAPAC SWITZERLAND	204	**6,370**	17	**521**	14	**8**	10	**5**	30
	W.R. GRACE U.S.	207	**6,331**	18	**253**	26	**4**	36	**5**	32
	HENKEL W. GERMANY	215	**6,188**	19	**215**	32	**3**	42	**4**	35
	PPG INDUSTRIES U.S.	223	**5,825**	20	**465**	15	**8**	11	**8**	9
	DAINIPPON INK & CHEMICALS JAPAN	242	**5,586**	21	**56**	45	**1**	48	**1**	48
	LYONDELL PETROCHEM. U.S.	246	**5,374**	22	**374**	21	**7**	17	**30**	1
	CEA-INDUSTRIE FRANCE	252	**5,256**	23	**345**	23	**7**	21	**2**	43
	DSM NETHERLANDS	266	**5,081**	24	**651**	10	**13**	3	**13**	3
	SEKISUI CHEMICAL JAPAN	269	**5,034**	25	**178**	36	**4**	41	**4**	36
	AMERICAN CYANAMID U.S.	274	**4,825**	26	**292**	25	**6**	24	**6**	20
	HÜLS W. GERMANY	281	**4,750**	27	**181**	35	**4**	39	**4**	34
	COURTAULDS BRITAIN	289	**4,615**	28	**454**	16	**10**	4	**15**	2
	L'AIR LIQUIDE FRANCE	297	**4,483**	29	**334**	24	**7**	15	**6**	22
	SHOWA DENKO JAPAN	319	**4,166**	30	**54**	46	**1**	47	**1**	46
	NOVA CANADA	325	**4,087**	31	**157**	39	**4**	38	**2**	42
	BOC GROUP BRITAIN	340	**3,904**	32	**381**	20	**10**	5	**9**	8
	ORKEM FRANCE	349	**3,756**	33	**359**	22	**10**	6	**10**	7
	MITSUI TOATSU CHEMICALS JAPAN	351	**3,749**	34	**126**	43	**3**	43	**3**	41
	NOBEL INDUSTRIES SWEDEN	363	**3,556**	35	**214**	33	**6**	25	**5**	29
	FMC U.S.	374	**3,461**	36	**136**	42	**4**	37	**5**	28
	MITSUBISHI PETROCHEMICAL JAPAN	397	**3,209**	37	**204**	34	**6**	23	**5**	26
	SHIN-ETSU CHEMICAL JAPAN	400	**3,183**	38	**216**	31	**7**	19	**6**	18
	HERCULES U.S.	407	**3,121**	39	**(81)**	49	**(3)**	49	**(2)**	49
	ERCROS SPAIN	442	**2,847**	40	**144**	41	**5**	29	**5**	31
	ETHYL U.S.	456	**2,755**	41	**231**	29	**8**	8	**4**	37
	AIR PROD. & CHEM. U.S.	467	**2,662**	42	**222**	30	**8**	9	**7**	16
	ROHM & HAAS U.S.	468	**2,661**	43	**176**	37	**7**	20	**7**	13
	QUANTUM CHEMICAL U.S.	470	**2,637**	44	**247**	28	**9**	7	**8**	10
	SABIC SAUDI ARABIA	471	**2,630**	45	**953**	7	**36**	1	**12**	4
	ENTREPRISE MINIÈRE & CHIMIQUE FRANCE	478	**2,607**	46	**41**	47	**2**	46	**2**	44
	KEMIRA FINLAND	484	**2,568**	47	**41**	48	**2**	45	**1**	47
	OLIN U.S.	493	**2,530**	48	**124**	44	**5**	30	**7**	17
	B.F. GOODRICH U.S.	494	**2,521**	49	**172**	38	**7**	18	**8**	12
	TOTAL		**374,688**		**23,385**		–		–	
	MEDIAN		**5,034**		**292**		**6**		**5**	
6	**COMPUTERS (INCL. OFFICE EQUIPMENT)** 18 COMPANIES									
	IBM U.S.	5	**63,438**	1	**3,758**	1	**6**	8	**5**	7
	FUJITSU JAPAN	49	**18,734**	2	**541**	4	**3**	9	**3**	9
	DIGITAL EQUIPMENT U.S.	78	**12,866**	3	**1,073**	2	**8**	4	**10**	3
	HEWLETT-PACKARD U.S.	89	**11,899**	4	**829**	3	**7**	5	**8**	6
	UNISYS U.S.	115	**10,097**	5	**(639)**	17	**(6)**	15	**(6)**	15
	CANON JAPAN	118	**10,024**	6	**278**	9	**3**	10	**2**	11
	OLIVETTI ITALY	198	**6,586**	7	**148**	11	**2**	12	**1**	13
	NCR U.S.	218	**5,956**	8	**412**	6	**7**	6	**9**	5
	RICOH JAPAN	229	**5,780**	9	**139**	12	**2**	11	**3**	10
	APPLE COMPUTER U.S.	251	**5,284**	10	**454**	5	**9**	2	**17**	1
	BULL FRANCE	257	**5,192**	11	**(42)**	14	**(1)**	14	**(1)**	14
	STC BRITAIN	310	**4,275**	12	**289**	8	**7**	7	**10**	4
	WANG LABORATORIES U.S.	414	**3,078**	13	**(424)**	15	**(14)**	16	**(16)**	16
	PITNEY BOWES U.S.	428	**2,959**	14	**253**	10	**9**	3	**5**	8
	CONTROL DATA U.S.	430	**2,952**	15	**(680)**	18	**(23)**	18	**(37)**	18
	COMPAQ COMPUTER U.S.	438	**2,876**	16	**333**	7	**12**	1	**16**	2
	NIXDORF COMPUTER W. GERMANY	466	**2,688**	17	**(566)**	16	**(21)**	17	**(23)**	17
	ESSELTE SWEDEN	479	**2,605**	18	**53**	13	**2**	13	**2**	12
	TOTAL		**177,288**		**6,207**		–		–	
	MEDIAN		**5,532**		**265**		**3**		**3**	

INDUSTRY TABLE NUMBER	COMPANY COUNTRY	Global 500 Rank	RANKED WITHIN INDUSTRY							
			SALES		PROFITS		PROFITS AS A PERCENT OF			
							SALES		ASSETS	
			$ mil.	Rank	$ mil.	Rank	%	Rank	%	Rank
7	**ELECTRONICS** 46 COMPANIES									
	GENERAL ELECTRIC U.S.	7	**55,264**	1	**3,939**	1	**7**	9	**3**	27
	HITACHI JAPAN	9	**50,894**	2	**1,447**	3	**3**	29	**3**	29
	MATSUSHITA ELEC. INDUSTRIAL JAPAN	12	**43,086**	3	**1,664**	2	**4**	22	**3**	23
	SAMSUNG SOUTH KOREA	20	**35,189**	4	**515**	15	**1**	38	**2**	36
	SIEMENS W. GERMANY	22	**32,660**	5	**787**	7	**2**	32	**2**	32
	TOSHIBA JAPAN	24	**29,469**	6	**931**	4	**3**	27	**3**	28
	PHILIPS NETHERLANDS	29	**26,992**	7	**648**	10	**2**	33	**2**	33
	NEC JAPAN	32	**24,595**	8	**503**	16	**2**	35	**2**	35
	CGE (CIE GÉNÉRALE D'ÉLECTRICITÉ) FRANCE	39	**22,575**	9	**775**	8	**3**	25	**2**	31
	MITSUBISHI ELECTRIC JAPAN	42	**21,213**	10	**415**	18	**2**	36	**2**	34
	DAEWOO SOUTH KOREA	47	**19,981**	11	**115**	40	**1**	45	**0**	45
	SONY JAPAN	57	**16,680**	12	**564**	13	**3**	26	**3**	26
	ELECTROLUX SWEDEN	77	**13,300**	13	**355**	21	**3**	31	**3**	25
	WESTINGHOUSE ELECTRIC U.S.	79	**12,844**	14	**922**	6	**7**	8	**5**	19
	THOMSON FRANCE	86	**12,027**	15	**78**	41	**1**	44	**0**	44
	SANYO ELECTRIC JAPAN	107	**10,487**	16	**124**	38	**1**	41	**1**	41
	GEC (GENERAL ELECTRIC CO.) BRITAIN	111	**10,396**	17	**924**	5	**9**	4	**10**	7
	SHARP JAPAN	121	**9,928**	18	**226**	30	**2**	34	**2**	38
	MOTOROLA U.S.	128	**9,620**	19	**498**	17	**5**	16	**6**	10
	RAYTHEON U.S.	143	**8,796**	20	**529**	14	**6**	11	**10**	5
	TRW U.S.	174	**7,408**	21	**263**	27	**4**	23	**5**	17
	HONEYWELL U.S.	179	**7,242**	22	**604**	11	**8**	6	**11**	2
	SCHNEIDER FRANCE	184	**7,080**	23	**138**	36	**2**	37	**2**	37
	EMERSON ELECTRIC U.S.	185	**7,071**	24	**588**	12	**8**	7	**11**	4
	TEXAS INSTRUMENTS U.S.	197	**6,592**	25	**292**	24	**4**	19	**6**	11
	WHIRLPOOL U.S.	208	**6,319**	26	**187**	31	**3**	28	**3**	22
	L.M. ERICSSON SWEDEN	212	**6,250**	27	**327**	22	**5**	14	**5**	18
	NORTHERN TELECOM CANADA	216	**6,106**	28	**377**	20	**6**	10	**6**	13
	THORN EMI BRITAIN	225	**5,820**	29	**307**	23	**5**	13	**8**	8
	FUJI ELECTRIC JAPAN	247	**5,369**	30	**73**	42	**1**	40	**1**	40
	NOKIA FINLAND	249	**5,308**	31	**36**	44	**1**	43	**1**	43
	LITTON INDUSTRIES U.S.	261	**5,130**	32	**178**	32	**3**	24	**3**	24
	COOPER INDUSTRIES U.S.	262	**5,129**	33	**268**	26	**5**	15	**4**	21
	TELEDYNE U.S.	284	**4,664**	34	**259**	28	**6**	12	**8**	9
	OKI ELECTRIC INDUSTRY JAPAN	304	**4,365**	35	**119**	39	**3**	30	**3**	30
	GOLDSTAR SOUTH KOREA	344	**3,863**	36	**27**	45	**1**	42	**1**	42
	PIONEER ELECTRONIC JAPAN	386	**3,328**	37	**145**	35	**4**	20	**6**	12
	INTEL U.S.	388	**3,281**	38	**391**	19	**12**	2	**10**	6
	TDK JAPAN	392	**3,253**	39	**165**	33	**5**	18	**4**	20
	MAYTAG U.S.	412	**3,089**	40	**131**	37	**4**	21	**5**	15
	ALPS ELECTRIC JAPAN	429	**2,955**	41	**42**	43	**1**	39	**1**	39
	OMRON JAPAN	433	**2,903**	42	**148**	34	**5**	17	**5**	16
	AMP U.S.	447	**2,821**	43	**281**	25	**10**	3	**11**	3
	RACAL ELECTRONICS BRITAIN	448	**2,811**	44	**701**	9	**25**	1	**25**	1
	KYOCERA JAPAN	463	**2,725**	45	**231**	29	**8**	5	**6**	14
	ZENITH ELECTRONICS U.S.	476	**2,611**	46	**(68)**	46	**(3)**	46	**(7)**	46
	TOTAL		**589,489**		**22,165**		–		–	
	MEDIAN		**7,075**		**299**		**4**		**3**	
8	**FOOD** 46 COMPANIES									
	PHILIP MORRIS U.S.	14	**39,069**	1	**2,946**	1	**8**	6	**8**	14
	UNILEVER BRITAIN/NETHERLANDS	18	**35,284**	2	**1,730**	3	**5**	16	**8**	12
	NESTLÉ SWITZERLAND	26	**29,365**	3	**1,474**	4	**5**	14	**6**	16
	OCCIDENTAL PETROLEUM U.S.	46	**20,068**	4	**285**	17	**1**	36	**1**	39
	RJR NABISCO HOLDINGS U.S.	66	**15,224**	5	**(1,149)**	44	**(8)**	44	**(3)**	44
	GRAND METROPOLITAN BRITAIN	73	**14,275**	6	**1,806**	2	**13**	1	**12**	4
	FERRUZZI FINANZIARIA ITALY	85	**12,047**	7	**227**	21	**2**	31	**1**	41
	SARA LEE U.S.	93	**11,738**	8	**410**	12	**3**	22	**6**	18
	CONAGRA U.S.	97	**11,340**	9	**198**	23	**2**	33	**5**	25
	BARLOW RAND SOUTH AFRICA	108	**10,418**	10	**358**	13	**3**	23	**6**	20
	ELDERS IXL AUSTRALIA	112	**10,339**	11	**514**	5	**5**	15	**7**	15
	TAIYO FISHERY JAPAN	151	**8,326**	12	**60**	35	**1**	39	**2**	37
	DALGETY BRITAIN	153	**8,160**	13	**116**	28	**1**	35	**5**	23
	ARCHER-DANIELS-MIDLAND U.S.	156	**8,057**	14	**425**	8	**5**	13	**9**	8
	BSN FRANCE	166	**7,739**	15	**423**	9	**5**	12	**4**	27
	BORDEN U.S.	169	**7,593**	16	**(61)**	43	**(1)**	43	**(1)**	43
	SNOW BRAND MILK PRODUCTS JAPAN	183	**7,188**	17	**52**	38	**1**	40	**2**	38
	RALSTON PURINA U.S.	192	**6,712**	18	**423**	10	**6**	10	**10**	6
	HILLSDOWN HOLDINGS BRITAIN	217	**6,047**	19	**247**	19	**4**	19	**9**	10

COMPANY	COUNTRY	Global 500 Rank	SALES $ mil.	SALES Rank	PROFITS $ mil.	PROFITS Rank	PROFITS AS A PERCENT OF SALES %	SALES Rank	PROFITS AS A PERCENT OF ASSETS %	ASSETS Rank
H.J. HEINZ	U.S.	222	**5,832**	20	**440**	7	**8**	5	**11**	5
GENERAL MILLS	U.S.	227	**5,798**	21	**414**	11	**7**	8	**14**	2
QUAKER OATS	U.S.	233	**5,724**	22	**203**	22	**4**	21	**6**	17
CAMPBELL SOUP	U.S.	235	**5,710**	23	**13**	42	**0**	42	**0**	42
TATE & LYLE	BRITAIN	236	**5,681**	24	**191**	24	**3**	24	**6**	19
CPC INTERNATIONAL	U.S.	263	**5,129**	25	**328**	15	**6**	9	**9**	9
KELLOGG	U.S.	283	**4,666**	26	**470**	6	**10**	3	**14**	3
NIPPON MEAT PACKERS	JAPAN	287	**4,640**	27	**90**	32	**2**	30	**3**	32
BEATRICE	U.S.	295	**4,498**	28	**325**	16	**7**	7	**9**	11
ASSOCIATED BRITISH FOODS	BRITAIN	302	**4,415**	29	**347**	14	**8**	4	**9**	7
NIPPON SUISAN KAISHA	JAPAN	316	**4,181**	30	**21**	41	**1**	41	**1**	40
UNIGATE	BRITAIN	318	**4,166**	31	**231**	20	**6**	11	**14**	1
AJINOMOTO	JAPAN	323	**4,110**	32	**122**	27	**3**	26	**2**	34
JACOBS SUCHARD	SWITZERLAND	326	**4,077**	33	**168**	26	**4**	18	**5**	21
WHITMAN	U.S.	329	**4,024**	34	**191**	25	**5**	17	**5**	22
JOHN LABATT	CANADA	331	**4,014**	35	**112**	29	**3**	27	**5**	24
UNITED BRANDS	U.S.	345	**3,851**	36	**68**	34	**2**	32	**4**	28
AGWAY	U.S.	395	**3,235**	37	–				–	
ITOHAM FOODS	JAPAN	398	**3,198**	38	**54**	37	**2**	34	**3**	33
MEIJI MILK PRODUCTS	JAPAN	402	**3,146**	39	**24**	40	**1**	38	**2**	36
YAMAZAKI BAKING	JAPAN	405	**3,125**	40	**72**	33	**2**	28	**4**	30
RANKS HOVIS MCDOUGALL	BRITAIN	418	**3,037**	41	**102**	30	**3**	25	**4**	26
FARMLAND INDUSTRIES	U.S.	424	**2,977**	42	–				–	
NISSHIN FLOUR MILLING	JAPAN	443	**2,842**	43	**60**	36	**2**	29	**4**	31
MORINAGA MILK INDUSTRY	JAPAN	475	**2,616**	44	**30**	39	**1**	37	**2**	35
GOODMAN FIELDER WATTIE	AUSTRALIA	487	**2,545**	45	**259**	18	**10**	2	**8**	13
TYSON FOODS	U.S.	490	**2,538**	46	**101**	31	**4**	20	**4**	29
TOTAL			**378,764**		**14,917**		–		–	
MEDIAN			**5,696**		**200**		**3**		**5**	

9 FOREST PRODUCTS 26 COMPANIES

COMPANY	COUNTRY	Global 500 Rank	SALES $ mil.	SALES Rank	PROFITS $ mil.	PROFITS Rank	PROFITS AS A PERCENT OF SALES %	SALES Rank	PROFITS AS A PERCENT OF ASSETS %	ASSETS Rank
INTERNATIONAL PAPER	U.S.	96	**11,378**	1	**864**	1	**8**	6	**7**	5
GEORGIA-PACIFIC	U.S.	113	**10,171**	2	**661**	2	**6**	10	**9**	1
WEYERHAEUSER	U.S.	114	**10,106**	3	**341**	9	**3**	20	**2**	22
CANADIAN PACIFIC	CANADA	134	**9,306**	4	**629**	3	**7**	9	**4**	16
NORANDA	CANADA	163	**7,802**	5	**373**	8	**5**	15	**3**	18
FLETCHER CHALLENGE	NEW ZEALAND	199	**6,572**	6	**407**	6	**6**	11	**5**	10
STORA KOPPARBERGS BERGSLAGS	SWEDEN	200	**6,550**	7	**251**	15	**4**	19	**3**	20
JAMES RIVER (VA.)	U.S.	220	**5,902**	8	**255**	14	**4**	18	**5**	12
KIMBERLY-CLARK	U.S.	230	**5,777**	9	**424**	5	**7**	8	**9**	3
STONE CONTAINER	U.S.	248	**5,361**	10	**286**	12	**5**	13	**5**	13
CHAMPION INTERNATIONAL	U.S.	253	**5,254**	11	**432**	4	**8**	4	**6**	9
FELDMÜHLE NOBEL	W. GERMANY	255	**5,224**	12	**86**	22	**2**	25	**2**	23
SCOTT PAPER	U.S.	267	**5,066**	13	**376**	7	**7**	7	**7**	6
OJI PAPER	JAPAN	282	**4,709**	14	**207**	18	**4**	17	**4**	15
MEAD	U.S.	286	**4,647**	15	**216**	17	**5**	16	**6**	8
BOISE CASCADE	U.S.	306	**4,338**	16	**268**	13	**6**	12	**6**	7
JUJO PAPER	JAPAN	336	**3,935**	17	**123**	21	**3**	21	**3**	19
GREAT NORTHERN NEKOOSA	U.S.	343	**3,863**	18	**321**	10	**8**	3	**8**	4
SANYO-KOKUSAKU PULP	JAPAN	376	**3,455**	19	**83**	23	**2**	22	**3**	21
HONSHU PAPER	JAPAN	381	**3,381**	20	**30**	26	**1**	26	**1**	26
MO OCH DOMSJO	SWEDEN	423	**2,992**	21	**159**	20	**5**	14	**4**	17
DAISHOWA PAPER MFG.	JAPAN	441	**2,858**	22	**63**	24	**2**	23	**1**	25
UNION CAMP	U.S.	454	**2,761**	23	**299**	11	**11**	1	**9**	2
ABITIBI-PRICE	CANADA	457	**2,751**	24	**46**	25	**2**	24	**2**	24
KYMMENE	FINLAND	473	**2,626**	25	**242**	16	**9**	2	**5**	11
ENSO-GUTZEIT	FINLAND	497	**2,506**	26	**203**	19	**8**	5	**5**	14
TOTAL			**139,290**		**7,645**		–		–	
MEDIAN			**4,887**		**261**		**5**		**5**	

10 FURNITURE 2 COMPANIES

COMPANY	COUNTRY	Global 500 Rank	SALES $ mil.	SALES Rank	PROFITS $ mil.	PROFITS Rank	PROFITS AS A PERCENT OF SALES %	SALES Rank	PROFITS AS A PERCENT OF ASSETS %	ASSETS Rank
JOHNSON CONTROLS	U.S.	357	**3,690**	1	**98**	1	**3**	1	**4**	1
INTERCO	U.S.	389	**3,278**	2	**70**	2	**2**	2	**4**	2
TOTAL			**6,967**		**168**		–		–	

11 INDUSTRIAL AND FARM EQUIPMENT 24 COMPANIES

COMPANY	COUNTRY	Global 500 Rank	SALES $ mil.	SALES Rank	PROFITS $ mil.	PROFITS Rank	PROFITS AS A PERCENT OF SALES %	SALES Rank	PROFITS AS A PERCENT OF ASSETS %	ASSETS Rank
ASEA BROWN BOVERI	SWITZERLAND	43	**21,209**	1	**589**	1	**3**	11	**2**	11
MITSUBISHI HEAVY INDUSTRIES	JAPAN	67	**15,007**	2	**482**	4	**3**	10	**2**	13
TENNECO	U.S.	72	**14,439**	3	**584**	2	**4**	7	**3**	9
MANNESMANN	W. GERMANY	90	**11,872**	4	**246**	6	**2**	14	**3**	10

INDUSTRY TABLE NUMBER — COMPANY COUNTRY	Global 500 Rank	RANKED WITHIN INDUSTRY — SALES $ mil.	Rank	PROFITS $ mil.	Rank	PROFITS AS A PERCENT OF SALES %	Rank	ASSETS %	Rank
CATERPILLAR U.S.	102	**11,126**	5	**497**	3	**4**	5	**5**	5
FRIED. KRUPP W. GERMANY	133	**9,402**	6	**(272)**	24	**(3)**	23	**(5)**	24
MAN W. GERMANY	135	**9,177**	7	**128**	13	**1**	17	**2**	15
DEERE U.S.	180	**7,221**	8	**380**	5	**5**	2	**4**	6
MATSUSHITA ELECTRIC WORKS JAPAN	196	**6,657**	9	**231**	7	**3**	8	**4**	7
KOMATSU JAPAN	206	**6,349**	10	**162**	11	**3**	12	**2**	14
ISHIKAWAJIMA-HARIMA HVY. IND. JAPAN	209	**6,290**	11	**103**	15	**2**	16	**1**	17
HOESCH W. GERMANY	237	**5,678**	12	**38**	18	**1**	20	**1**	19
KUBOTA JAPAN	240	**5,623**	13	**144**	12	**3**	13	**2**	12
SULZER BROTHERS SWITZERLAND	324	**4,088**	14	**74**	17	**2**	15	**1**	16
DRESSER INDUSTRIES U.S.	330	**4,023**	15	**170**	10	**4**	6	**6**	3
HAWKER SIDDELEY GROUP BRITAIN	366	**3,518**	16	**175**	9	**5**	3	**5**	4
CUMMINS ENGINE U.S.	368	**3,511**	17	**(6)**	21	**0**	21	**0**	21
INGERSOLL-RAND U.S.	378	**3,447**	18	**211**	8	**6**	1	**8**	1
BLACK & DECKER U.S.	396	**3,221**	19	**30**	20	**1**	19	**0**	20
OERLIKON-BÜHRLE SWITZERLAND	434	**2,903**	20	**(25)**	22	**(1)**	22	**0**	22
LINDE W. GERMANY	435	**2,899**	21	**96**	16	**3**	9	**4**	8
SUMITOMO HEAVY INDUSTRIES JAPAN	436	**2,897**	22	**33**	19	**1**	18	**1**	18
PARKER HANNIFIN U.S.	495	**2,520**	23	**124**	14	**5**	4	**6**	2
MCDERMOTT INTERNATIONAL PANAMA	498	**2,496**	24	**(92)**	23	**(4)**	24	**(3)**	23
TOTAL		**165,575**		**4,103**		–		–	
MEDIAN		**5,650**		**136**		**3**		**2**	

12 JEWELRY, SILVERWARE N.A.

13 LEATHER N.A.

14 METAL PRODUCTS 18 COMPANIES

INDUSTRY TABLE NUMBER — COMPANY COUNTRY	Global 500 Rank	RANKED WITHIN INDUSTRY — SALES $ mil.	Rank	PROFITS $ mil.	Rank	PROFITS AS A PERCENT OF SALES %	Rank	ASSETS %	Rank
NKK JAPAN	104	**10,926**	1	**714**	2	**7**	6	**4**	13
ALCAN ALUMINIUM CANADA	141	**8,839**	2	**835**	1	**9**	2	**9**	4
SUMITOMO ELECTRIC INDUSTRIES JAPAN	188	**6,878**	3	**179**	11	**3**	16	**3**	15
BICC BRITAIN	213	**6,217**	4	**190**	9	**3**	14	**6**	6
FURUKAWA ELECTRIC JAPAN	239	**5,651**	5	**91**	17	**2**	17	**2**	17
TOYO SEIKAN JAPAN	254	**5,242**	6	**180**	10	**3**	13	**5**	10
ALUSUISSE SWITZERLAND	291	**4,567**	7	**285**	4	**6**	7	**7**	5
NIPPON LIGHT METAL JAPAN	321	**4,134**	8	**114**	14	**3**	15	**3**	14
SKF SWEDEN	342	**3,885**	9	**217**	8	**6**	8	**5**	9
GILLETTE U.S.	346	**3,850**	10	**285**	5	**7**	3	**9**	3
NISSHIN STEEL JAPAN	369	**3,488**	11	**243**	6	**7**	5	**4**	11
CMB PACKAGING FRANCE	384	**3,344**	12	**178**	12	**5**	10	**4**	12
MASCO U.S.	401	**3,151**	13	**221**	7	**7**	4	**6**	7
TOYO SASH JAPAN	417	**3,040**	14	**166**	13	**5**	9	**5**	8
SANDVIK SWEDEN	421	**3,001**	15	**405**	3	**13**	1	**11**	2
DEUTSCHE BABCOCK W. GERMANY	439	**2,873**	16	**5**	18	**0**	18	**0**	18
RAUMA-REPOLA FINLAND	449	**2,795**	17	**110**	16	**4**	12	**3**	16
JOHNSON MATTHEY BRITAIN	492	**2,531**	18	**114**	15	**4**	11	**12**	1
TOTAL		**84,412**		**4,531**		–		–	
MEDIAN		**3,867**		**185**		**5**		**5**	

15 METALS 38 COMPANIES

INDUSTRY TABLE NUMBER — COMPANY COUNTRY	Global 500 Rank	RANKED WITHIN INDUSTRY — SALES $ mil.	Rank	PROFITS $ mil.	Rank	PROFITS AS A PERCENT OF SALES %	Rank	ASSETS %	Rank
IRI ITALY	11	**49,077**	1	**1,178**	1	**2**	27	–	
NIPPON STEEL JAPAN	44	**20,767**	2	**608**	6	**3**	25	**2**	27
THYSSEN W. GERMANY	51	**18,299**	3	**408**	10	**2**	29	**4**	23
USINOR-SACILOR FRANCE	61	**15,630**	4	**1,061**	2	**7**	9	**6**	11
PECHINEY FRANCE	75	**13,987**	5	**524**	8	**4**	21	**4**	21
ALUMINUM CO. OF AMERICA U.S.	101	**11,162**	6	**945**	4	**8**	6	**8**	5
METALLGESELLSCHAFT W. GERMANY	105	**10,753**	7	**76**	34	**1**	35	**2**	33
KOBE STEEL JAPAN	123	**9,886**	8	**198**	21	**2**	30	**1**	34
SUMITOMO METAL INDUSTRIES JAPAN	127	**9,643**	9	**452**	9	**5**	16	**3**	24
BROKEN HILL PROPRIETARY AUSTRALIA	137	**9,127**	10	**925**	5	**10**	2	**6**	12
KAWASAKI STEEL JAPAN	138	**9,081**	11	**378**	12	**4**	20	**3**	25
PREUSSAG W. GERMANY	140	**8,987**	12	**149**	27	**2**	32	**2**	28
BRITISH STEEL BRITAIN	147	**8,677**	13	**992**	3	**11**	1	**11**	1
DEGUSSA W. GERMANY	162	**7,864**	14	**93**	31	**1**	34	**3**	26
MITSUBISHI METAL JAPAN	194	**6,698**	15	**88**	32	**1**	33	**2**	32
POHANG IRON & STEEL SOUTH KOREA	201	**6,472**	16	**214**	19	**3**	22	**2**	31
LTV U.S.	205	**6,362**	17	**265**	16	**4**	19	**4**	18
REYNOLDS METALS U.S.	214	**6,201**	18	**533**	7	**9**	5	**10**	3
ARBED LUXEMBOURG	224	**5,824**	19	**251**	17	**4**	18	**4**	22
SALZGITTER W. GERMANY	231	**5,747**	20	**182**	23	**3**	24	**4**	16
VIAG W. GERMANY	243	**5,548**	21	**133**	29	**2**	28	**2**	29

INDUSTRY TABLE NUMBER	COMPANY COUNTRY	Global 500 Rank	RANKED WITHIN INDUSTRY SALES $ mil.	Rank	PROFITS $ mil.	Rank	PROFITS AS A PERCENT OF SALES %	Rank	ASSETS %	Rank
	BETHLEHEM STEEL U.S.	250	**5,306**	22	**246**	18	**5**	17	**5**	14
	COCKERILL SAMBRE BELGIUM	259	**5,167**	23	**390**	11	**8**	8	**7**	6
	SIDERBRAS BRAZIL	280	**4,756**	24	**(471)**	38	**(10)**	38	**(3)**	35
	HOOGOVENS GROEP NETHERLANDS	307	**4,305**	25	**354**	14	**8**	7	**7**	7
	STEEL AUTHORITY OF INDIA INDIA	308	**4,304**	26	**209**	20	**5**	15	**4**	19
	INLAND STEEL INDUSTRIES U.S.	320	**4,147**	27	**120**	30	**3**	26	**4**	20
	AMAX U.S.	338	**3,915**	28	**360**	13	**9**	4	**9**	4
	EFIM ITALY	350	**3,754**	29	**(18)**	36	**0**	36	–	
	DOFASCO CANADA	385	**3,329**	30	**184**	22	**6**	13	**4**	17
	DAIDO STEEL JAPAN	390	**3,258**	31	**57**	35	**2**	31	**2**	30
	COOKSON GROUP BRITAIN	393	**3,245**	32	**172**	25	**5**	14	**7**	8
	OUTOKUMPU FINLAND	461	**2,743**	33	**180**	24	**7**	11	**6**	13
	PHELPS DODGE U.S.	462	**2,726**	34	**267**	15	**10**	3	**11**	2
	KLÖCKNER-WERKE W. GERMANY	464	**2,713**	35	**(103)**	37	**(4)**	37	**(4)**	36
	NATIONAL STEEL U.S.	482	**2,577**	36	**83**	33	**3**	23	**5**	15
	SSAB SVENSKT STÅL SWEDEN	491	**2,533**	37	**141**	28	**6**	12	**7**	10
	ARMCO U.S.	499	**2,494**	38	**165**	26	**7**	10	**7**	9
	TOTAL		**307,065**		**11,989**		–		–	
	MEDIAN		**5,786**		**212**		**4**		**4**	

16 MINING, CRUDE-OIL PRODUCTION 12 COMPANIES

COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	Rank	PROFITS $ mil.	Rank	SALES %	Rank	ASSETS %	Rank
INI SPAIN	64	**15,277**	1	**703**	6	**5**	7	**2**	7
RUHRKOHLE W. GERMANY	83	**12,422**	2	**30**	8	**0**	9	**0**	9
RTZ BRITAIN	116	**10,093**	3	**1,359**	3	**13**	5	**12**	5
BRITISH COAL BRITAIN	168	**7,596**	4	**(359)**	11	**(5)**	11	**(3)**	11
VALE DO RIO DOCE BRAZIL	294	**4,523**	5	**2,944**	1	**65**	1	**45**	1
DE BEERS CONSOLIDATED MINES SOUTH AFRICA	327	**4,075**	6	**1,559**	2	**38**	2	**19**	3
CRA AUSTRALIA	328	**4,027**	7	**514**	7	**13**	6	**8**	6
INCO CANADA	334	**3,948**	8	**753**	5	**19**	4	**21**	2
CODELCO-CHILE CHILE	355	**3,711**	9	**757**	4	**20**	3	**15**	4
COAL INDIA INDIA	427	**2,963**	10	**(16)**	10	**(1)**	10	**0**	10
SAARBERGWERKE W. GERMANY	446	**2,821**	11	**15**	9	**1**	8	**1**	8
ZAMBIA INDUSTRIAL & MINING ZAMBIA	455	**2,756**	12	–		–		–	
TOTAL		**74,213**		**8,259**		–		–	
MEDIAN		**4,051**		**703**		**9**		**5**	

INDUSTRY TABLE NUMBER	COMPANY COUNTRY	Global 500 Rank	RANKED WITHIN INDUSTRY SALES $ mil.	Rank	PROFITS $ mil.	Rank	PROFITS AS A PERCENT OF SALES %	Rank	ASSETS %	Rank

17 MOTOR VEHICLES AND PARTS 42 COMPANIES

COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	Rank	PROFITS $ mil.	Rank	SALES %	Rank	ASSETS %	Rank
GENERAL MOTORS U.S.	1	**126,974**	1	**4,224**	1	**3**	16	**2**	23
FORD MOTOR U.S.	2	**96,933**	2	**3,835**	2	**4**	12	**2**	26
TOYOTA MOTOR JAPAN	6	**60,444**	3	**2,631**	4	**4**	11	**5**	9
DAIMLER-BENZ W. GERMANY	13	**40,616**	4	**3,585**	3	**9**	1	**10**	1
FIAT ITALY	15	**36,741**	5	**2,411**	5	**7**	5	**5**	10
CHRYSLER U.S.	16	**36,156**	6	**359**	12	**1**	34	**1**	40
NISSAN MOTOR JAPAN	17	**36,078**	7	**890**	8	**2**	21	**2**	22
VOLKSWAGEN W. GERMANY	21	**34,746**	8	**523**	11	**2**	27	**2**	32
RENAULT FRANCE	27	**27,457**	9	**1,457**	7	**5**	8	**7**	8
HONDA MOTOR JAPAN	30	**26,484**	10	**758**	10	**3**	19	**4**	13
PEUGEOT FRANCE	35	**24,091**	11	**1,616**	6	**7**	3	**9**	3
MITSUBISHI MOTORS JAPAN	56	**16,840**	12	**147**	22	**1**	37	**1**	35
ROBERT BOSCH W. GERMANY	59	**16,263**	13	**333**	14	**2**	24	**3**	20
MAZDA MOTOR JAPAN	62	**15,572**	14	**99**	27	**1**	39	**1**	38
VOLVO SWEDEN	70	**14,638**	15	**837**	9	**6**	7	**5**	11
BMW W. GERMANY	74	**14,098**	16	**296**	15	**2**	23	**2**	24
ISUZU MOTORS JAPAN	124	**9,868**	17	**122**	25	**1**	28	**2**	29
NIPPONDENSO JAPAN	126	**9,663**	18	**348**	13	**4**	13	**4**	16
SUZUKI MOTOR JAPAN	175	**7,404**	19	**50**	35	**1**	38	**1**	37
SAAB-SCANIA SWEDEN	181	**7,219**	20	**156**	21	**2**	22	**2**	27
KOÇ HOLDING TURKEY	203	**6,415**	21	**220**	19	**3**	14	**9**	2
HYUNDAI MOTOR SOUTH KOREA	221	**5,845**	22	**62**	32	**1**	31	**1**	36
DAIHATSU MOTOR JAPAN	234	**5,715**	23	**51**	34	**1**	36	**1**	33
FUJI HEAVY INDUSTRIES JAPAN	258	**5,188**	24	**52**	33	**1**	33	**1**	39
DANA U.S.	260	**5,157**	25	**132**	24	**3**	20	**3**	21
AISIN SEIKI JAPAN	288	**4,633**	26	**93**	28	**2**	26	**3**	18
NAVISTAR INTERNATIONAL U.S.	309	**4,296**	27	**87**	29	**2**	25	**2**	25
EATON U.S.	313	**4,241**	28	**225**	18	**5**	9	**7**	6
HINO MOTORS JAPAN	315	**4,203**	29	**44**	37	**1**	32	**2**	28
YAMAHA MOTOR JAPAN	322	**4,127**	30	**49**	36	**1**	29	**1**	34
PACIFIC DUNLOP AUSTRALIA	353	**3,719**	31	**(81)**	42	**(2)**	42	**(3)**	42
LUCAS INDUSTRIES BRITAIN	361	**3,566**	32	**235**	17	**7**	4	**8**	5
GKN BRITAIN	373	**3,467**	33	**200**	20	**6**	6	**7**	7
TOYODA AUTOMATIC LOOM WORKS JAPAN	377	**3,455**	34	**100**	26	**3**	18	**4**	15

INDUSTRY TABLE NUMBER		RANKED WITHIN INDUSTRY							
COMPANY COUNTRY		SALES		PROFITS		PROFITS AS A PERCENT OF			
						SALES		ASSETS	
	Global 500 Rank	$ mil.	Rank	$ mil.	Rank	%	Rank	%	Rank
PACCAR U.S.	383	**3,373**	35	**242**	16	**7**	2	**8**	4
ZAHNRADFABRIK FRIEDRICH. W. GERMANY	391	**3,254**	36	**38**	38	**1**	30	**2**	30
VALEO FRANCE	413	**3,080**	37	**147**	23	**5**	10	**5**	12
NISSAN SHATAI JAPAN	451	**2,790**	38	**17**	40	**1**	40	**2**	31
KANTO AUTO WORKS JAPAN	474	**2,618**	39	**25**	39	**1**	35	**3**	17
NIPPON SEIKO JAPAN	486	**2,549**	40	**86**	30	**3**	15	**3**	19
NISSAN DIESEL MOTOR JAPAN	488	**2,545**	41	**15**	41	**1**	41	**1**	41
DAF NETHERLANDS	500	**2,484**	42	**81**	31	**3**	17	**4**	14
TOTAL		**745,004**		**26,800**		–		–	
MEDIAN		**6,130**		**152**		**2**		**3**	
18 PETROLEUM REFINING 52 COMPANIES									
EXXON U.S.	3	**86,656**	1	**3,510**	2	**4**	24	**4**	25
ROYAL DUTCH/SHELL GROUP BRITAIN/NETHERLANDS	4	**85,528**	2	**6,483**	1	**8**	7	**7**	11
MOBIL U.S.	8	**50,976**	3	**1,809**	7	**4**	27	**5**	22
BRITISH PETROLEUM BRITAIN	10	**49,484**	4	**3,499**	3	**7**	11	**7**	13
TEXACO U.S.	23	**32,416**	5	**2,413**	5	**7**	8	**9**	6
CHEVRON U.S.	25	**29,443**	6	**251**	27	**1**	47	**1**	49
ENI ITALY	28	**27,119**	7	**1,126**	11	**4**	23	**3**	32
AMOCO U.S.	34	**24,214**	8	**1,610**	9	**7**	12	**5**	18
ELF AQUITAINE FRANCE	37	**23,501**	9	**1,132**	10	**5**	21	**3**	27
USX U.S.	52	**17,755**	10	**965**	13	**5**	17	**6**	16
TOTAL FRANCE	55	**16,927**	11	**346**	22	**2**	36	**2**	34
PETROBRÁS BRAZIL	58	**16,360**	12	**513**	18	**3**	30	**3**	29
ATLANTIC RICHFIELD U.S.	60	**15,905**	13	**1,953**	6	**12**	4	**9**	7
PEMEX (PETRÓLEOS MEX.) MEXICO	65	**15,258**	14	**320**	23	**2**	35	**1**	48
NIPPON OIL JAPAN	71	**14,563**	15	**216**	29	**1**	42	**2**	40
PETRÓLEOS DE VENEZUELA VENEZUELA	76	**13,677**	16	**2,718**	4	**20**	3	**31**	1
PHILLIPS PETROLEUM U.S.	82	**12,492**	17	**219**	28	**2**	38	**2**	37
KUWAIT PETROLEUM KUWAIT	92	**11,796**	18	**735**	14	**6**	13	**3**	28
PETROFINA BELGIUM	98	**11,270**	19	**554**	16	**5**	20	**5**	17
IDEMITSU KOSAN JAPAN	99	**11,249**	20	**13**	52	**0**	52	**0**	52
INDIAN OIL INDIA	106	**10,610**	21	**356**	21	**3**	28	**8**	8
UNOCAL U.S.	109	**10,417**	22	**260**	25	**2**	32	**3**	31
REPSOL SPAIN	119	**9,998**	23	**545**	17	**5**	16	**6**	15
SUN U.S.	122	**9,927**	24	**98**	41	**1**	45	**1**	44
COSMO OIL JAPAN	130	**9,488**	25	**82**	44	**1**	46	**1**	45
SUNKYONG SOUTH KOREA	139	**9,014**	26	**154**	36	**2**	39	**2**	33
STATOIL NORWAY	145	**8,735**	27	**734**	15	**8**	6	**8**	9
COASTAL U.S.	150	**8,607**	28	**170**	33	**2**	37	**2**	38
SHOWA SHELL SEKIYU JAPAN	152	**8,230**	29	**46**	47	**1**	50	**1**	47
NESTE FINLAND	154	**8,124**	30	**434**	20	**5**	18	**5**	19
ASHLAND OIL U.S.	158	**8,017**	31	**86**	43	**1**	44	**2**	39
CHINESE PETROLEUM TAIWAN	159	**8,008**	32	**1,776**	8	**22**	2	**17**	2
VEBA OEL W. GERMANY	171	**7,492**	33	**22**	51	**0**	51	**1**	50
SSANGYONG SOUTH KOREA	173	**7,422**	34	**172**	32	**2**	34	**1**	43
NIPPON MINING JAPAN	210	**6,250**	35	**106**	39	**2**	41	**1**	42
AMERADA HESS U.S.	241	**5,589**	36	**476**	19	**9**	5	**7**	12
TONEN JAPAN	271	**4,891**	37	**184**	31	**4**	26	[illegible]	26
OIL & NATURAL GAS COMMISSION INDIA	275	**4,816**	38	**1,108**	12	**23**	1	**11**	4
TÜRKIYE PETROLLERI TURKEY	298	**4,457**	39	**274**	24	**6**	14	**7**	10
PETRO-CANADA CANADA	332	**3,960**	40	**26**	49	**1**	49	**0**	51
MITSUBISHI OIL JAPAN	339	**3,910**	41	**67**	46	**2**	40	**2**	41
CEPSA SPAIN	347	**3,837**	42	**92**	42	**2**	33	**5**	24
HINDUSTAN PETROLEUM INDIA	352	**3,746**	43	**120**	38	**3**	29	**12**	3
PETRONAS MALAYSIA	364	**3,533**	44	**253**	26	**7**	10	**3**	30
KF INDUSTRI SWEDEN	379	**3,423**	45	**23**	50	**1**	48	**1**	46
KERR-MCGEE U.S.	406	**3,122**	46	**156**	35	**5**	19	**5**	21
HONAM OIL SOUTH KOREA	419	**3,030**	47	**40**	48	**1**	43	**2**	36
ULTRAMAR BRITAIN	437	**2,882**	48	**168**	34	**6**	15	**5**	23
BHARAT PETROLEUM INDIA	450	**2,793**	49	**72**	45	**3**	31	**7**	14
PIONEER INTERNATIONAL AUSTRALIA	452	**2,779**	50	**125**	37	**5**	22	**5**	20
PENNZOIL U.S.	459	**2,750**	51	**104**	40	**4**	25	**2**	35
BURMAH OIL BRITAIN	496	**2,519**	52	**187**	30	**7**	9	**10**	5
TOTAL		**758,965**		**38,901**		–		–	
MEDIAN		**8,874**		**252**		**4**		**4**	
19 PHARMACEUTICALS 17 COMPANIES									
JOHNSON & JOHNSON U.S.	125	**9,844**	1	**1,082**	4	**11**	8	**14**	7
BRISTOL-MYERS SQUIBB U.S.	132	**9,422**	2	**747**	7	**8**	10	**9**	9
SMITHKLINE BEECHAM BRITAIN	157	**8,029**	3	**213**	14	**3**	17	**4**	15
SANDOZ SWITZERLAND	165	**7,766**	4	**586**	9	**8**	11	**8**	11

INDUSTRY TABLE NUMBER COMPANY COUNTRY	Global 500 Rank	RANKED WITHIN INDUSTRY SALES $ mil.	Rank	PROFITS $ mil.	Rank	PROFITS AS A PERCENT OF SALES %	Rank	ASSETS %	Rank
AMERICAN HOME PRODUCTS U.S.	190	**6,747**	5	**1,102**	3	**16**	4	**19**	3
MERCK U.S.	193	**6,698**	6	**1,495**	1	**22**	3	**22**	1
PFIZER U.S.	219	**5,904**	7	**681**	8	**12**	7	**8**	10
TAKEDA CHEMICAL JAPAN	244	**5,454**	8	**302**	12	**6**	14	**5**	14
ABBOTT LABORATORIES U.S.	245	**5,454**	9	**860**	6	**16**	5	**18**	4
GLAXO HOLDINGS BRITAIN	303	**4,408**	10	**1,180**	2	**27**	1	**22**	2
WARNER-LAMBERT U.S.	311	**4,272**	11	**413**	11	**10**	9	**14**	6
ELI LILLY U.S.	317	**4,176**	12	**940**	5	**22**	2	**16**	5
SANKYO JAPAN	382	**3,376**	13	**108**	17	**3**	16	**4**	16
PROCORDIA SWEDEN	387	**3,293**	14	**222**	13	**7**	12	**7**	12
SCHERING-PLOUGH U.S.	394	**3,243**	15	**471**	10	**15**	6	**13**	8
SCHERING W. GERMANY	409	**3,108**	16	**120**	16	**4**	15	**3**	17
UPJOHN U.S.	420	**3,001**	17	**176**	15	**6**	13	**5**	13
TOTAL		**94,194**		**10,697**		–		–	
MEDIAN		**5,454**		**586**		**10**		**9**	

20 PUBLISHING, PRINTING 12 COMPANIES

DAI NIPPON PRINTING JAPAN	161	**7,892**	1	**274**	6	**3**	8	**4**	8
TIME WARNER U.S.	167	**7,642**	2	**(256)**	12	**(3)**	12	**(1)**	12
TOPPAN PRINTING JAPAN	182	**7,217**	3	**225**	7	**3**	9	**4**	9
BERTELSMANN W. GERMANY	191	**6,717**	4	**138**	10	**2**	10	**4**	10
NEWS CORP. AUSTRALIA	202	**6,453**	5	**949**	1	**15**	3	**7**	7
THOMSON CORP. CANADA	264	**5,112**	6	**929**	2	**18**	2	**13**	2
HACHETTE FRANCE	290	**4,606**	7	**74**	11	**2**	11	**2**	11
GANNETT U.S.	365	**3,523**	8	**398**	4	**11**	4	**11**	3
TIMES MIRROR U.S.	367	**3,517**	9	**298**	5	**8**	5	**8**	6
R.R. DONNELLY U.S.	404	**3,128**	10	**222**	8	**7**	7	**9**	5
MOORE CANADA	458	**2,751**	11	**202**	9	**7**	6	**10**	4
REED INTERNATIONAL BRITAIN	460	**2,749**	12	**881**	3	**32**	1	**23**	1
TOTAL		**61,307**		**4,334**		–		–	
MEDIAN		**4,859**		**250**		**7**		**7**	

21 RUBBER AND PLASTICS PRODUCTS 8 COMPANIES

INDUSTRY TABLE NUMBER COMPANY COUNTRY	Global 500 Rank	RANKED WITHIN INDUSTRY SALES $ mil.	Rank	PROFITS $ mil.	Rank	PROFITS AS A PERCENT OF SALES %	Rank	ASSETS %	Rank
BRIDGESTONE JAPAN	84	**12,379**	1	**68**	6	**1**	8	**1**	8
GOODYEAR TIRE U.S.	103	**11,045**	2	**207**	2	**2**	6	**2**	4
MICHELIN FRANCE	148	**8,669**	3	**384**	1	**4**	1	**3**	3
PIRELLI ITALY/SWITZERLAND	170	**7,542**	4	**174**	3	**2**	5	**2**	6
CONTINENTAL W. GERMANY	299	**4,456**	5	**121**	4	**3**	3	**4**	2
SUMITOMO RUBBER JAPAN	371	**3,481**	6	**48**	8	**1**	7	**2**	7
YOKOHAMA RUBBER JAPAN	472	**2,628**	7	**64**	7	**2**	4	**2**	5
PREMARK INT'L U.S.	480	**2,601**	8	**78**	5	**3**	2	**4**	1
TOTAL		**52,801**		**1,145**		–		–	
MEDIAN		**6,049**		**100**		**2**		**2**	

22 SCIENTIFIC AND PHOTOGRAPHIC EQUIP. 7 COMPANIES

EASTMAN KODAK U.S.	50	**18,546**	1	**529**	4	**3**	6	**2**	6
XEROX U.S.	54	**17,635**	2	**704**	2	**4**	5	**2**	5
MINNESOTA MIN. & MFG. U.S.	88	**11,990**	3	**1,244**	1	**10**	1	**13**	1
BAXTER INTERNATIONAL U.S.	176	**7,399**	4	**446**	5	**6**	4	**5**	4
FUJI PHOTO FILM JAPAN	177	**7,368**	5	**650**	3	**9**	3	**7**	3
SCHLUMBERGER NETHERLANDS ANTILLES	273	**4,844**	6	**441**	6	**9**	2	**8**	2
KONICA JAPAN	354	**3,716**	7	**15**	7	**0**	7	**0**	7
TOTAL		**71,497**		**4,030**		–		–	
MEDIAN		**7,399**		**529**		**6**		**5**	

23 SOAPS, COSMETICS 9 COMPANIES

PROCTER & GAMBLE U.S.	41	**21,689**	1	**1,206**	1	**6**	4	**7**	3
COLGATE-PALMOLIVE U.S.	265	**5,110**	2	**280**	3	**5**	5	**8**	2
KAO JAPAN	296	**4,490**	3	**135**	6	**3**	6	**3**	6
L'ORÉAL FRANCE	312	**4,262**	4	**283**	2	**7**	2	**7**	4
SVENSKA CELLULOSA SWEDEN	335	**3,935**	5	**251**	4	**6**	3	**5**	5
AVON PRODUCTS U.S.	380	**3,396**	6	**55**	8	**2**	9	**3**	7
SHISEIDO JAPAN	399	**3,191**	7	**81**	7	**3**	7	**2**	8
REVLON GROUP U.S.	431	**2,942**	8	**53**	9	**2**	8	**1**	9
RECKITT & COLMAN BRITAIN	481	**2,580**	9	**202**	5	**8**	1	**11**	1
TOTAL		**51,596**		**2,546**		–		–	
MEDIAN		**3,935**		**202**		**5**		**5**	

24 TEXTILES 12 COMPANIES

ASAHI CHEMICAL INDUSTRY JAPAN	160	**7,992**	1	**268**	1	**3**	6	**4**	5

INDUSTRY TABLE NUMBER	COMPANY COUNTRY	Global 500 Rank	RANKED WITHIN INDUSTRY							
			SALES		PROFITS		PROFITS AS A PERCENT OF			
							SALES		ASSETS	
			$ mil.	Rank	$ mil.	Rank	%	Rank	%	Rank
	TORAY INDUSTRIES JAPAN	211	**6,250**	2	**261**	2	**4**	4	**4**	4
	KANEBO JAPAN	268	**5,035**	3	**34**	8	**1**	9	**1**	9
	HACI ÖMER SABANCI TURKEY	276	**4,811**	4	**227**	3	**5**	2	**5**	2
	WICKES U.S.	277	**4,802**	5	**(123)**	12	**(3)**	12	**(3)**	12
	HYOSUNG SOUTH KOREA	278	**4,782**	6	**22**	10	**0**	10	**1**	10
	TEIJIN JAPAN	301	**4,424**	7	**158**	5	**4**	5	**3**	6
	TOYOBO JAPAN	333	**3,958**	8	**56**	7	**1**	7	**2**	7
	COATS VIYELLA BRITAIN	408	**3,121**	9	**132**	6	**4**	3	**5**	3
	ARMSTRONG WORLD IND. U.S.	440	**2,864**	10	**188**	4	**7**	1	**9**	1
	UNITIKA JAPAN	477	**2,608**	11	**29**	9	**1**	8	**1**	8
	WEST POINT-PEPPERELL U.S.	485	**2,568**	12	**(19)**	11	**(1)**	11	**(1)**	11
	TOTAL		**53,215**		**1,232**		–		–	
	MEDIAN		**4,603**		**94**		**2**		**2**	

25 TOBACCO 5 COMPANIES

INDUSTRY TABLE NUMBER	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	Rank	PROFITS $ mil.	Rank	SALES %	Rank	ASSETS %	Rank
	BAT INDUSTRIES BRITAIN	36	**23,529**	1	**2,123**	1	**9**	1	**11**	1
	JAPAN TOBACCO JAPAN	164	**7,769**	2	**298**	3	**4**	3	**3**	5

INDUSTRY TABLE NUMBER	COMPANY COUNTRY	Global 500 Rank	RANKED WITHIN INDUSTRY							
			SALES		PROFITS		PROFITS AS A PERCENT OF			
							SALES		ASSETS	
			$ mil.	Rank	$ mil.	Rank	%	Rank	%	Rank
	AMERICAN BRANDS U.S.	178	**7,265**	3	**631**	2	**9**	2	**6**	3
	UNIVERSAL U.S.	432	**2,920**	4	**54**	5	**2**	5	**5**	4
	TABACALERA SPAIN	469	**2,653**	5	**87**	4	**3**	4	**6**	2
	TOTAL		**44,137**		**3,194**		–		–	
	MEDIAN		**7,265**		**298**		**4**		**6**	

26 TOYS, SPORTING GOODS 1 COMPANY

INDUSTRY TABLE NUMBER	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	Rank	PROFITS $ mil.	Rank	SALES %	Rank	ASSETS %	Rank
	YAMAHA JAPAN	348	**3,794**	1	**28**	1	**1**	1	**1**	1

27 TRANSPORTATION EQUIPMENT 4 COMPANIES

INDUSTRY TABLE NUMBER	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	Rank	PROFITS $ mil.	Rank	SALES %	Rank	ASSETS %	Rank
	KAWASAKI HEAVY INDUSTRIES JAPAN	187	**6,906**	1	**91**	3	**1**	3	**1**	3
	SOLVAY BELGIUM	195	**6,693**	2	**393**	1	**6**	1	**6**	1
	HYUNDAI HEAVY INDUSTRIES SOUTH KOREA	300	**4,429**	3	**94**	2	**2**	2	**2**	2
	BRUNSWICK U.S.	445	**2,826**	4	**(71)**	4	**(3)**	4	**(4)**	4
	TOTAL		**20,853**		**507**		–		–	
	MEDIAN		**5,561**		**92**		**2**		**1**	

DEFINITIONS AND EXPLANATIONS

SALES

All companies on the list must have derived more than 50% of their sales from manufacturing and/or mining. Sales of consolidated subsidiaries are included. All figures are for the year ended December 31, 1989, unless otherwise noted. Sales figures do not include excise taxes collected by manufacturers, and so the figures for some corporations—most of which sell gasoline, liquor, or tobacco—may be lower than those published by the corporations themselves.

PROFITS

Profits are shown after taxes and after extraordinary credits or charges if any appear on the income statement. A double asterisk (**) signifies an extraordinary credit reflecting at least 10% of the profits shown, a double dagger (‡) an extraordinary charge of at least 10%. Figures in parentheses indicate a loss. Profit declines over 100% reflect swings from 1988 profits to 1989 losses. Cooperatives provide only "net margin" figures, which are not comparable with the profits figures in these listings, and therefore N.A. is shown in that column.

ASSETS

Assets shown are those at the company's fiscal year-end.

STOCKHOLDERS' EQUITY

Stockholders' equity is the sum of capital stock, surplus, and retained earnings at the company's year-end.

INDUSTRY TABLES

Industry table numbers used in the directory indicate the groups in which companies are placed in "The Global 500/The Biggest Companies by Industry," beginning on page 300. Companies are included in the industry that represents the greatest volume of their industrial sales. Industry groups are based on categories established by the U.S. Office of Management and Budget and issued by the Federal Statistical Policy and Standards Office. The median figures in the tables refer only to results of companies in the 500; no attempt has been made to calculate medians in groups with fewer than four companies.

Most of the figures in this FORTUNE 500 Directory were prepared by Jung Ah Pak and Sally Solo, who are responsible for the columns reporting on companies' sales, assets, profits, and stockholders' equity, and the industry table numbers.

INDUSTRY MEDIANS

RETURN ON SALES

	1989
PHARMACEUTICALS	9.7%
MINING, CRUDE-OIL PRODUCTION	8.7
PUBLISHING, PRINTING	7.2
BUILDING MATERIALS	6.4
BEVERAGES	6.2
SCIENTIFIC AND PHOTOGRAPHIC EQUIPMENT	6.0
CHEMICALS	6.0
SOAPS, COSMETICS	5.5
METAL PRODUCTS	5.4
FOREST PRODUCTS	5.3
METALS	4.2
TOBACCO	3.8
PETROLEUM REFINING	3.7
ELECTRONICS	3.5
FOOD	3.4
AEROSPACE	2.9
COMPUTERS (INCLUDES OFFICE EQUIPMENT)	2.8
INDUSTRIAL AND FARM EQUIPMENT	2.6
TEXTILES	2.4
RUBBER AND PLASTICS PRODUCTS	2.4
MOTOR VEHICLES AND PARTS	2.3
TRANSPORTATION EQUIPMENT	1.7
THE 500 MEDIAN	4.0

RETURN ON ASSETS

	1989
PHARMACEUTICALS	8.8%
PUBLISHING, PRINTING	7.1
BEVERAGES	6.0
TOBACCO	5.5
BUILDING MATERIALS	5.5
SCIENTIFIC AND PHOTOGRAPHIC EQUIPMENT	5.2
MINING, CRUDE-OIL PRODUCTION	5.2
CHEMICALS	5.2
SOAPS, COSMETICS	5.0
FOOD	4.9
METAL PRODUCTS	4.8
FOREST PRODUCTS	4.5
METALS	4.0
PETROLEUM REFINING	3.6
ELECTRONICS	3.4
COMPUTERS (INCLUDES OFFICE EQUIPMENT)	2.6
AEROSPACE	2.6
MOTOR VEHICLES AND PARTS	2.5
RUBBER AND PLASTICS PRODUCTS	2.4
INDUSTRIAL AND FARM EQUIPMENT	2.2
TEXTILES	2.0
TRANSPORTATION EQUIPMENT	1.5
THE 500 MEDIAN	4.3

INDUSTRY TOTALS

	SALES		PROFITS		ASSETS		STOCKHOLDERS' EQUITY		EMPLOYEES	
	$ MIL	RANK	$ MIL	RANK	$ MIL	RANK	$ MIL	RANK	NUMBER	RANK
PETROLEUM REFINING	758,965	1	38,901	1	803,511	1	312,126	1	1,658,347	6
MOTOR VEHICLES AND PARTS	745,004	2	26,800	2	803,047	2	194,286	2	3,822,576	2
ELECTRONICS	589,489	3	22,165	4	686,810	3	187,075	3	4,162,064	1
FOOD	378,764	4	14,917	5	312,576	5	83,260	5	2,201,285	3
CHEMICALS	374,688	5	23,385	3	402,661	4	142,178	4	2,008,754	4
METALS	307,065	6	11,989	6	278,932	6	72,280	7	1,958,666	5
COMPUTERS (INCLUDES OFFICE EQUIPMENT)	177,288	7	6,207	11	189,305	7	83,196	6	1,210,154	9
INDUSTRIAL AND FARM EQUIPMENT	165,575	8	4,103	16	182,097	8	46,446	10	1,143,973	10
AEROSPACE	157,173	9	4,955	13	139,591	10	39,711	12	1,363,080	7
FOREST PRODUCTS	139,290	10	7,645	9	167,044	9	55,190	8	752,496	11
PHARMACEUTICALS	94,194	11	10,697	7	93,292	14	45,284	11	631,877	13
BEVERAGES	91,525	12	6,663	10	119,838	11	46,651	9	725,426	12
METAL PRODUCTS	84,412	13	4,531	14	89,262	16	25,305	16	464,216	17
BUILDING MATERIALS	81,174	14	5,795	12	96,583	13	19,754	17	620,994	14
MINING, CRUDE-OIL PRODUCTION	74,213	15	8,259	8	105,436	12	35,278	13	1,267,083	8
SCIENTIFIC AND PHOTOGRAPHIC EQUIPMENT	71,497	16	4,030	17	90,694	15	31,254	14	488,157	16
PUBLISHING, PRINTING	61,307	17	4,334	15	83,333	17	31,062	15	356,642	19
TEXTILES	53,215	18	1,232	20	51,892	18	14,485	20	290,944	20
RUBBER AND PLASTICS PRODUCTS	52,801	19	1,145	21	51,590	19	13,044	21	501,667	15
SOAPS, COSMETICS	51,596	20	2,546	19	44,289	20	16,186	19	272,547	21
TOBACCO	44,137	21	3,194	18	43,959	21	19,063	18	414,295	18
TRANSPORTATION EQUIPMENT	20,853	22	507	22	21,619	22	5,522	22	140,558	22
FURNITURE	6,967	23	168	24	4,190	23	(28)	25	89,500	23
APPAREL	6,168	24	448	23	3,910	24	1,214	23	76,000	24
TOYS, SPORTING GOODS	3,794	25	28	25	3,420	25	1,092	24	17,136	25
TOTAL	4,591,154		214,639		4,868,881		1,520,913		26,638,437	

THE GLOBAL 500/ALPHABETICAL INDEX

COMPANY	SALES RANK
A	
ABBOTT LABORATORIES	245
ABITIBI-PRICE	457
AÉROSPATIALE	232
AGWAY	395
AIR PRODUCTS & CHEMICALS	467
AISIN SEIKI	288
AJINOMOTO	323
AKZO	142
ALCAN ALUMINIUM	141
ALLIED-LYONS	189
ALLIED-SIGNAL	87
ALPS ELECTRIC	429
ALUMINUM CO. OF AMERICA	101
ALUSUISSE	291
AMAX	338
AMERADA HESS	241
AMERICAN BRANDS	178
AMERICAN CYANAMID	274
AMERICAN HOME PRODUCTS	190
AMERICAN STANDARD	359
AMOCO	34
AMP	447
ANHEUSER-BUSCH	131
APPLE COMPUTER	251
ARBED	224
ARCHER-DANIELS-MIDLAND	156
ARMCO	499
ARMSTRONG WORLD INDUST.	440
ASAHI BREWERIES	358
ASAHI CHEMICAL INDUSTRY	160
ASAHI GLASS	155
ASEA BROWN BOVERI	43
ASHLAND OIL	158
ASSOCIATED BRITISH FOODS	302
ATLANTIC RICHFIELD	60
AVON PRODUCTS	380
B	
BARLOW RAND	108
BASF	31
BASS	238
BAT INDUSTRIES	36
BAXTER INTERNATIONAL	176
BAYER	38
BEATRICE	295
BERTELSMANN	191
BETHLEHEM STEEL	250
BHARAT PETROLEUM	450
BICC	213
BLACK & DECKER	396
BMW	74
BOC GROUP	340
BOEING	45
BOISE CASCADE	306
BOND CORP. HOLDINGS	228
BORAL	425
BORDEN	169
BOSCH (ROBERT)	59
BRIDGESTONE	84
BRISTOL-MYERS SQUIBB	132
BRITISH AEROSPACE	69
BRITISH COAL	168
BRITISH PETROLEUM	10
BRITISH STEEL	147
BROKEN HILL PROPRIETARY	137
BRUNSWICK	445
BSN	166
BTR	94
BULL	257
BURMAH OIL	496
C	
CADBURY SCHWEPPES	285
CAMPBELL SOUP	235
CANADIAN PACIFIC	134
CANON	118
CATERPILLAR	102
CEA-INDUSTRIE	252
CEPSA	347
CGE	39
CHAMPION INTERNATIONAL	253
CHEVRON	25
CHINESE PETROLEUM	159
CHRYSLER	16
CIBA-GEIGY	81
CMB PACKAGING	384
COAL INDIA	427
COASTAL	150
COATS VIYELLA	408
COCA-COLA	136
COCA-COLA ENTERPRISES	341
COCKERILL SAMBRE	259
CODELCO-CHILE	355
COLGATE-PALMOLIVE	265
COMPAQ COMPUTER	438
CONAGRA	97
CONTINENTAL	299
CONTROL DATA	430
COOKSON GROUP	393
COOPER INDUSTRIES	262
COSMO OIL	130
COURTAULDS	289
CPC INTERNATIONAL	263
CRA	328
CSR	444
CUMMINS ENGINE	368
D	
DAEWOO	47
DAF	500
DAIDO STEEL	390
DAIHATSU MOTOR	234
DAIMLER-BENZ	13
DAINIPPON INK & CHEMICALS	242
DAI NIPPON PRINTING	161
DAISHOWA PAPER MFG.	441
DALGETY	153
DANA	260
DASSAULT AVIATION	415
DE BEERS CONSOLIDATED MINES	327
DEERE	180
DEGUSSA	162
DEUTSCHE BABCOCK	439
DIGITAL EQUIPMENT	78
DOFASCO	385
DONNELLEY (R.R.) & SONS	404
DOOSAN	483
DOW CHEMICAL	53
DRESSER INDUSTRIES	330
DSM	266
DU PONT DE NEMOURS (E.I.)	19
E	
EASTMAN KODAK	50
EATON	313
EFIM	350
ELDERS IXL	112
ELECTROLUX	77
ELF AQUITAINE	37
EMERSON ELECTRIC	185
ENI	28
ENIMONT	100
ENSO-GUTZEIT	497
ENTR. MINIÈRE & CHIMIQUE	478
ERCROS	442
ERICSSON (L.M.)	212
ESSELTE	479
ETHYL	456
EXXON	3
F	
FARMLAND INDUSTRIES	424
FELDMÜHLE NOBEL	255
FERRUZZI FINANZIARIA	85
FIAT	15
FLETCHER CHALLENGE	199
FMC	374
FORD MOTOR	2
FUJI ELECTRIC	247
FUJI HEAVY INDUSTRIES	258
FUJI PHOTO FILM	177
FUJITSU	49
FURUKAWA ELECTRIC	239
G	
GANNETT	365
GEC (GENERAL ELECTRIC CO.)	111
GENERAL DYNAMICS	117
GENERAL ELECTRIC	7
GENERAL MILLS	227
GENERAL MOTORS	1
GEORGIA-PACIFIC	113
GILLETTE	346
GKN	373
GLAXO HOLDINGS	303
GOLDSTAR	344
GOODMAN FIELDER WATTIE	487
GOODRICH (B.F.)	494
GOODYEAR TIRE & RUBBER	103
GRACE (W.R.)	207
GRAND METROPOLITAN	73
GREAT NORTHERN NEKOOSA	343
GRUMMAN	362
GUINNESS	370
H	
HACHETTE	290
HANSON	91
HAWKER SIDDELEY GROUP	366
HEINEKEN	403
HEINZ (H.J.)	222
HENKEL	215
HERCULES	407
HEWLETT-PACKARD	89
HILLSDOWN HOLDINGS	217
HINDUSTAN PETROLEUM	352
HINO MOTORS	315
HITACHI	9
HOECHST	33
HOESCH	237
HOLDERBANK	416
HONAM OIL REFINERY	419
HONDA MOTOR	30
HONEYWELL	179
HONSHU PAPER	381
HOOGOVENS GROEP	307
HÜLS	281
HYOSUNG	278
HYUNDAI HEAVY INDUSTRIES	300
HYUNDAI MOTOR	221
I	
IDEMITSU KOSAN	99
IMPERIAL CHEMICAL IND.	40
INCO	334
INDIAN OIL	106
INGERSOLL-RAND	378
INI	64
INLAND STEEL INDUSTRIES	320
INTEL	388
INTERCO	389
INT'L BUSINESS MACHINES	5
INTERNATIONAL PAPER	96
IRI	11
ISHIKAWAJIMA-HARIMA	209
ISUZU MOTORS	124
ITOHAM FOODS	398
J	
JACOBS SUCHARD	326
JAMES RIVER CORP. OF VA.	220
JAPAN TOBACCO	164
JOHNSON CONTROLS	357
JOHNSON & JOHNSON	125
JOHNSON MATTHEY	492
JUJO PAPER	336
K	
KANEBO	268
KANTO AUTO WORKS	474
KAO	296
KAWASAKI HEAVY INDUSTRIES	187
KAWASAKI STEEL	138
KELLOGG	283
KEMIRA	484
KERR-MCGEE	406
KF INDUSTRI	379
KIMBERLY-CLARK	230
KIRIN BREWERY	270
KLÖCKNER-WERKE	464
KOBE STEEL	123
KOÇ HOLDING	203
KOMATSU	206
KONICA	354
KRUPP (FRIED.)	133
KUBOTA	240
KUWAIT PETROLEUM	92
KYMMENE	473
KYOCERA	463
L	
LABATT (JOHN)	331
LAFARGE COPPÉE	279
L'AIR LIQUIDE	297
LILLY (ELI)	317
LINDE	435
LITTON INDUSTRIES	261
LOCKHEED	120
L'ORÉAL	312
LTV	205
LUCAS INDUSTRIES	361
LVMH	426
LYONDELL PETROCHEMICAL	246

THE GLOBAL 500/ALPHABETICAL INDEX

COMPANY	SALES RANK
M	
MAN	135
MANNESMANN	90
MARTIN MARIETTA	226
MASCO	401
MATRA	372
MATSUSHITA ELECTRIC IND.	12
MATSUSHITA ELECTRIC WORKS	196
MAYTAG	412
MAZDA MOTOR	62
MCDERMOTT INTERNATIONAL	498
MCDONNELL DOUGLAS	68
MEAD	286
MEIJI MILK PRODUCTS	402
MERCK	193
METALLGESELLSCHAFT	105
MICHELIN	148
MINNESOTA MINING & MFG.	88
MITSUBISHI ELECTRIC	42
MITSUBISHI HEAVY INDUSTRIES	67
MITSUBISHI KASEI	149
MITSUBISHI METAL	194
MITSUBISHI MINING & CEMENT	465
MITSUBISHI MOTORS	56
MITSUBISHI OIL	339
MITSUBISHI PETROCHEMICAL	397
MITSUI TOATSU CHEMICALS	351
MOBIL	8
MONSANTO	146
MO OCH DOMSJO	423
MOORE	458
MORINAGA MILK INDUSTRY	475
MOTOROLA	128
N	
NATIONAL STEEL	482
NAVISTAR INTERNATIONAL	309
NCR	218
NEC	32
NESTE	154
NESTLÉ	26
NEWS CORP.	202
NIPPONDENSO	126
NIPPON LIGHT METAL	321
NIPPON MEAT PACKERS	287
NIPPON MINING	210
NIPPON OIL	71
NIPPON SEIKO	486
NIPPON STEEL	44
NIPPON SUISAN KAISHA	316
NISSAN DIESEL MOTOR	488
NISSAN MOTOR	17
NISSAN SHATAI	451
NISSHIN FLOUR MILLING	443
NISSHIN STEEL	369
NIXDORF COMPUTER	466
NKK	104
NOBEL INDUSTRIES	363
NOKIA	249
NORANDA	163
NORSK HYDRO	129
NORTHERN TELECOM	216
NORTHROP	256
NOVA	325
O	
OCCIDENTAL PETROLEUM	46
OERLIKON-BÜHRLE	434
OIL & NATURAL GAS COMM.	275
OJI PAPER	282
OKI ELECTRIC INDUSTRY	304
OLIN	493
OLIVETTI	198
OMRON	433
ONODA CEMENT	411
ORKEM	349
OUTOKUMPU	461
OWENS-CORNING FIBERGLAS	422
OWENS-ILLINOIS	356
P	
PACCAR	383
PACIFIC DUNLOP	353
PARKER HANNIFIN	495
PECHINEY	75
PEMEX	65
PENNZOIL	459
PEPSICO	63
PETROBRÁS	58
PETRO-CANADA	332
PETROFINA	98
PETRÓLEOS DE VENEZUELA	76
PETRONAS	364
PEUGEOT	35
PFIZER	219
PHELPS DODGE	462
PHILIP MORRIS	14
PHILIPS	29
PHILLIPS PETROLEUM	82
PILKINGTON	293
PIONEER ELECTRONIC	386
PIONEER INTERNATIONAL	452
PIRELLI	170
PITNEY BOWES	428
POHANG IRON & STEEL	201
PPG INDUSTRIES	223
PREMARK INTERNATIONAL	480
PREUSSAG	140
PROCORDIA	387
PROCTER & GAMBLE	41
Q	
QUAKER OATS	233
QUANTUM CHEMICAL	470
R	
RACAL ELECTRONICS	448
RALSTON PURINA	192
RANKS HOVIS MCDOUGALL	418
RAUMA-REPOLA	449
RAYTHEON	143
RECKITT & COLMAN	481
REED INTERNATIONAL	460
RENAULT	27
REPSOL	119
REVLON GROUP	431
REYNOLDS METALS	214
RHÔNE-POULENC	95
RICOH	229
RJR NABISCO HOLDINGS	66
RMC GROUP	314
ROCHE/SAPAC	204
ROCKWELL INTERNATIONAL	80
ROHM & HAAS	468
ROLLS-ROYCE	272
ROYAL DUTCH/SHELL GROUP	4
RTZ	116
RUHRKOHLE	83
S	
SAAB-SCANIA	181
SAARBERGWERKE	446
SABANCI (HACI ÖMER)	276
SABIC	471
SAINT-GOBAIN	110
SALZGITTER	231
SAMSUNG	20
SANDOZ	165
SANDVIK	421
SANKYO	382
SANYO ELECTRIC	107
SANYO-KOKUSAKU PULP	376
SARA LEE	93
SCHERING	409
SCHERING-PLOUGH	394
SCHLUMBERGER	273
SCHNEIDER	184
SCOTT PAPER	267
SEAGRAM	337
SEKISUI CHEMICAL	269
SHARP	121
SHIN-ETSU CHEMICAL	400
SHISEIDO	399
SHOWA DENKO	319
SHOWA SHELL SEKIYU	152
SIDERBRÁS	280
SIEMENS	22
SKF	342
SMITHKLINE BEECHAM	157
SNECMA	375
SNOW BRAND MILK PRODUCTS	183
SOLVAY	195
SONY	57
SOURCE PERRIER	410
SSAB SVENSKT STÅL	491
SSANGYONG	173
STATOIL	145
STC	310
STEEL AUTHORITY OF INDIA	308
STONE CONTAINER	248
STORA KOPPARBERGS BERG.	200
STRAUSS (LEVI)	360
SULZER BROTHERS	324
SUMITOMO CHEMICAL	186
SUMITOMO ELECTRIC IND.	188
SUMITOMO HEAVY INDUSTRIES	436
SUMITOMO METAL INDUSTRIES	127
SUMITOMO RUBBER	371
SUN	122
SUNKYONG	139
SUZUKI MOTOR	175
SVENSKA CELLULOSA	335
T	
TABACALERA	469
TAIYO FISHERY	151
TAKEDA CHEMICAL	244
TATE & LYLE	236
TDK	392
TEIJIN	301
TELEDYNE	284
TENNECO	72
TEXACO	23
TEXAS INSTRUMENTS	197
TEXTRON	172
THOMSON	86
THOMSON CORP.	264
THORN EMI	225
THYSSEN	51
TIMES MIRROR	367
TIME WARNER	167
TONEN	271
TOPPAN PRINTING	182
TORAY INDUSTRIES	211
TOSHIBA	24
TOTAL	55
TOYOBO	333
TOYODA AUTO. LOOM WORKS	377
TOYO SASH	417
TOYO SEIKAN	254
TOYOTA MOTOR	6
TRELLEBORG	305
TRW	174
TÜRKIYE PETROLLERI	298
TYSON FOODS	490
U	
UBE INDUSTRIES	292
ULTRAMAR	437
UNIGATE	318
UNILEVER	18
UNION CAMP	454
UNION CARBIDE	144
UNISYS	115
UNITED BRANDS	345
UNITED TECHNOLOGIES	48
UNITIKA	477
UNIVERSAL	432
UNOCAL	109
UPJOHN	420
USINOR-SACILOR	61
USX	52
V	
VALE DO RIO DOCE	294
VALEO	413
VEBA OEL	171
VF	489
VIAG	243
VOLKSWAGEN	21
VOLVO	70
W	
WANG LABORATORIES	414
WARNER-LAMBERT	311
WESTINGHOUSE ELECTRIC	79
WEST POINT-PEPPERELL	485
WEYERHAEUSER	114
WHIRLPOOL	208
WHITBREAD	453
WHITMAN	329
WICKES	277
X	
XEROX	54
Y	
YAMAHA	348
YAMAHA MOTOR	322
YAMAZAKI BAKING	405
YOKOHAMA RUBBER	472
Z	
ZAHNRADFABRIK FRIEDRICH.	391
ZAMBIA INDUSTRIAL & MINING	455
ZENITH ELECTRONICS	476

JAPAN IS STILL NO. 1

Japan continues to dominate global banking. Eight of the top ten banks in the world ranked by assets are Japanese (the others are French). For the fourth straight year, Dai-Ichi Kangyo is No. 1. The 30 Japanese banks on the list—the most from any country—control $5.6 trillion of assets, more than the banks of the U.S., France, West Germany, Britain, and Italy combined.

But size is becoming less important than strength. The new buzzwords in international banking are profitability and capital adequacy—and the Japanese are scrambling. Like their compatriots in manufacturing, most Japanese banks have pursued market share at the expense of profits. Nor has Japan's Ministry of Finance required them to maintain capital reserves as large as those of most of their Western competitors.

The Japanese now are beginning to concentrate on profits. They have also agreed to meet by the end of 1992 reserve standards set by the Bank for International Settlements (BIS) in Basel, Switzerland. In both areas they have a way to go. Profits of the largest Japanese banks have declined since the fiscal year ended in March 1989, on which this list is based. And Fuji Bank, for example, the third largest both in Japan and in the world, had a capital-to-assets ratio of roughly 3% for the 1989 fiscal year, well below the BIS standard of 8%.

In the global ocean of banking, the U.S. doesn't make much of a splash. Only 13 American banks made the list, and just three were in the top 50. Citicorp, America's largest with $231 billion in assets, was No. 11. The second largest, Chase Manhattan, ranked 38th.

Nine banks—including six in the U.S.—lost money. Sagging under LDC loans, a slumping real estate market, and the collapse in junk bonds, American banks reported some of the biggest percentage decreases in profits. Bankers Trust New York Corp. (No. 89) was down 251%, and J.P. Morgan (No. 55) had a 227% drop. (Declines in excess of 100% indicate a swing from a profit to a loss.) Each bank set aside nearly $2 billion for credit losses in 1989.

Italy's Banca Nazionale del Lavoro (No. 41) suffered an embarrassing $175 million loss after the discovery last August that its Atlanta branch had made over $2 billion in unauthorized loans to Iraq. In contrast, Banco di Roma (No. 81) was the leader in profit growth, with a 162% increase. Two American banks made the top ten for earnings increases: NCNB (No. 78) had a 77% gain, mainly because it acquired the failed subsidiaries of First RepublicBank in Texas, and BankAmerica (No. 45) reported a 52% increase, making 1989 its most profitable year ever.

West Germany's Deutsche Bank (No. 18) aggressively pursued its global strategy. It acquired Austria's Antoni Hacker & Co. and the British merchant bank Morgan Grenfell, increased investments in banks in Spain and Uruguay, added three new branches in Asia, and opened representative offices in Budapest and Warsaw.

Deutsche Bank is also vying with its smaller West German rivals, Dresdner (No. 28) and Commerzbank (No. 34), for prominence in the united Germany. The bank got a jump on the others last April when it negotiated a joint venture with Kreditbank, the newly formed commercial banking arm of East Germany's central bank. East Germany, along with the other reawakened countries of Eastern Europe, will need tremendous infusions of capital in the next few years, which presents opportunity for all the global banks. **– Nora E. Field**

RANK BY ASSETS 1989	
1	DAI-ICHI KANGYO BANK[6]
2	SUMITOMO BANK[6]
3	FUJI BANK[6]
4	MITSUBISHI BANK[6]
5	SANWA BANK[6]
6	INDUSTRIAL BANK OF JAPAN[6]
7	NORINCHUKIN BANK[6,7]
8	CREDIT AGRICOLE
9	TOKAI BANK[6]
10	BANQUE NATIONALE DE PARIS[8]
11	CITICORP
12	BANK OF TOKYO[6]
13	MITSUBISHI TRUST & BANKING[6,7]
14	MITSUI BANK[6]
15	CRÉDIT LYONNAIS[8]
16	SUMITOMO TRUST & BANKING[6,7]
17	BARCLAYS BANK
18	DEUTSCHE BANK[9]
19	LONG-TERM CREDIT BANK OF JAPAN[6]
20	MITSUI TRUST & BANKING[6,7]
21	NATIONAL WESTMINSTER BANK
22	TAIYO KOBE BANK[6,7]
23	BANK OF CHINA[8]
24	SOCIÉTÉ GÉNÉRALE
25	DAIWA BANK[6,7]
26	YASUDA TRUST & BANKING[6,7]
27	GROUPE DES CAISSES D'ÉPARGNE
28	DRESDNER BANK[9]
29	CIE FINANCIÈRE DE PARIBAS
30	HONGKONG & SHANGHAI BANKING
31	TOYO TRUST & BANKING[6]
32	NIPPON CREDIT BANK[6,7]
33	UNION BANK OF SWITZERLAND[7]
34	COMMERZBANK[9]
35	DEUTSCHE GENOSSENSCHAFTSBANK[9]
36	KYOWA BANK[6,7]
37	ISTITUTO BANCARIO SAN PAOLO DI TORINO[8]
38	CHASE MANHATTAN CORP.
39	SWISS BANK CORP.[7]
40	WESTDEUTSCHE LANDESBANK[8,9]
41	BANCA NAZIONALE DEL LAVORO[8]
42	BAYERISCHE VEREINSBANK[9]
43	SAITAMA BANK[6,7]
44	MIDLAND BANK
45	BANKAMERICA CORP.
46	ROYAL BANK OF CANADA[10]
47	AMSTERDAM-ROTTERDAM BANK
48	LLOYDS BANK
49	SHOKO CHUKIN BANK[6,7,8]
50	BAYERISCHE LANDESBANK[9]

	ASSETS[1]		DEPOSITS[2]		LOANS[3]	NET INCOME[4]	STOCK-HOLDERS' EQUITY[5]	EMPLOYEES	
	$ Millions	Percent change in U.S. dollars	$ Millions	Rank	$ Millions	$ Millions	$ Millions	Number	
JAPAN	413,214.4	8.9	313,457.2	1	219,890.0	1,551.3	10,988.7	18,411	1
JAPAN	407,227.3	12.1	296,940.0	2	205,524.4	1,619.5	10,497.3	16,038	2
JAPAN	397,629.5	10.3	284,485.1	3	207,099.7	1,419.9	10,767.5	15,032	3
JAPAN	380,857.5	9.1	273,375.0	4	198,466.9	1,352.2	10,194.9	14,271	4
JAPAN	373,404.5	12.9	269,885.9	5	210,025.8	1,264.3	9,341.0	13,946	5
JAPAN	292,154.9	7.0	124,326.6	26	156,758.6	652.1	9,261.6	5,253	6
JAPAN	244,902.7	3.8	211,436.6	6	102,481.6	318.1	1,389.2	3,130	7
FRANCE	242,578.3	15.2	211,173.7	7	213,913.6	709.2	10,055.1	73,714	8
JAPAN	238,783.4	4.9	176,158.1	11	130,629.6	498.2	6,179.2	11,865	9
FRANCE	232,024.2	17.8	162,556.0	15	166,897.7	535.6	4,651.5	60,333	10
U.S.	230,643.0	11.1	137,922.0	22	155,383.0	498.0	10,076.0	92,000	11
JAPAN	222,382.7	19.9	150,781.1	18	110,779.7	473.1	4,823.2	17,040	12
JAPAN	221,727.5	6.4	186,545.5	8	99,710.8	604.6	5,150.8	6,288	13
JAPAN	220,363.2	4.3	159,544.2	17	130,045.3	607.9	5,785.3	10,256	14
FRANCE	211,237.4	18.1	167,900.9	12	143,459.1	491.0	6,863.7	61,508	15
JAPAN	207,582.6	13.7	178,496.7	10	106,482.6	573.6	4,707.7	6,759	16
BRITAIN	206,036.0	8.9	167,594.8	13	169,893.8	741.1	10,050.3	116,500	17
W. GERMANY	203,601.1	18.3	183,676.3	9	159,783.8	699.2	8,776.2	56,580	18
JAPAN	196,628.1	6.4	149,730.8	19	126,131.7	412.1	5,503.9	3,488	19
JAPAN	191,573.4	9.5	161,740.0	16	107,702.1	472.0	3,225.8	6,173	20
BRITAIN	187,587.1	5.2	163,469.7	14	161,643.7	326.3	9,603.0	113,000	21
JAPAN	181,773.9	3.6	139,427.0	21	114,551.4	417.3	4,396.8	12,931	22
CHINA	181,543.0	21.0	74,059.9	56	106,583.1	1,356.1	8,365.9	51,000	23
FRANCE	176,213.2	13.4	133,951.7	24	129,554.7	558.7	4,042.8	45,950	24
JAPAN	162,031.9	7.5	84,805.0	39	87,400.7	304.7	3,070.4	8,688	25
JAPAN	160,171.3	(4.6)	132,206.5	25	79,654.4	408.5	3,143.4	5,627	26
FRANCE	151,021.8	8.3	144,315.2	20	68,929.7	456.4	7,880.2	33,000	27
W. GERMANY	147,723.5	13.4	134,995.9	23	120,232.3	334.8	5,516.1	36,898	28
FRANCE	139,003.8	14.3	89,122.8	35	96,775.9	541.1	4,200.7	25,500	29
HONG KONG	132,928.7	17.5	118,588.4	27	97,819.9	612.1	6,746.4	53,375	30
JAPAN	124,616.5	3.1	105,717.9	29	75,416.9	319.8	2,170.2	5,078	31
JAPAN	123,645.9	7.4	97,040.8	31	75,243.3	296.5	2,949.0	2,218	32
SWITZERLAND	114,260.0	3.0	96,066.9	34	96,175.8	551.5	8,179.0	21,210	33
W. GERMANY	113,379.2	11.5	106,343.8	28	92,679.6	298.7	4,062.8	27,631	34
W. GERMANY	110,639.1	48.0	102,701.5	30	87,383.3	118.4	1,808.6	9,597	35
JAPAN	110,168.2	(0.4)	81,354.1	45	67,187.3	281.3	2,737.1	7,925	36
ITALY	107,700.0	31.9	79,641.6	47	51,939.3	477.6	3,707.0	20,407	37
U.S.	107,369.0	10.2	69,073.0	57	73,402.0	(665.0)	4,944.0	41,610	38
SWITZERLAND	105,465.3	2.8	88,032.5	37	88,633.0	458.2	6,174.3	18,349	39
W. GERMANY	105,021.6	12.9	96,842.3	32	82,721.1	182.8	3,106.6	9,652	40
ITALY	104,524.9	14.9	83,892.7	41	76,706.4	(175.0)	5,054.5	26,238	41
W. GERMANY	102,758.7	12.1	96,302.0	33	91,334.9	148.1	2,335.3	14,995	42
JAPAN	102,686.3	10.2	76,278.8	53	58,685.0	226.2	2,608.5	7,848	43
BRITAIN	100,872.3	0.1	88,280.9	36	85,541.1	(359.1)	4,334.9	60,237	44
U.S.	98,764.0	4.3	81,186.0	46	72,488.0	1,103.0	5,534.0	54,779	45
CANADA	97,657.4	8.2	75,961.4	54	70,895.8	444.0	4,924.6	47,989	46
NETHERLANDS	94,168.2	12.1	85,379.1	38	52,930.0	400.5	3,478.1	23,718	47
BRITAIN	92,901.6	(0.9)	84,591.7	40	77,865.7	(960.8)	3,818.3	84,679	48
JAPAN	91,776.8	(1.5)	82,229.0	44	73,649.3	73.4	2,238.6	6,118	49
W. GERMANY	91,301.2	14.2	76,841.3	52	71,874.6	63.7	1,998.5	4,463	50

THE GLOBAL 100

THE WORLD'S BIGGEST COMMERCIAL BANKS

RANK BY ASSETS 1989			ASSETS[1]		DEPOSITS[2]		LOANS[3]	NET INCOME[4]
			$ Millions	Percent change in U.S. dollars	$ Millions	Rank	$ Millions	$ Millions
51	ALGEMENE BANK NEDERLAND	NETHERLANDS	90,742.5	6.7	79,313.6	48	60,212.7	330.7
52	BAYERISCHE HYPOTHEKEN & WECHSEL	W. GERMANY	90,571.9	18.8	83,853.2	43	79,533.2	147.0
53	RABOBANK	NETHERLANDS	90,347.9	11.9	83,883.7	42	64,751.4	423.6
54	CRÉDIT SUISSE	SWITZERLAND	89,243.3	18.2	74,697.0	55	74,860.5	478.7
55	J.P. MORGAN & CO.	U.S.	88,964.0	6.0	39,158.0	85	26,030.0	(1,275.0)
56	BANCA COMMERCIALE ITALIANA	ITALY	88,839.1	41.9	77,891.6	50	66,068.6	313.9
57	ZENSHINREN BANK	JAPAN	86,321.6	(.6)	77,987.7	49	29,399.1	231.5
58	BANK OF YOKOHAMA	JAPAN	86,172.5	5.8	63,117.1	62	50,416.0	158.5
59	CANADIAN IMPERIAL BANK OF COMMERCE	CANADA	85,352.7	9.9	67,177.0	58	61,776.4	377.6
60	NMB POSTBANK GROUP	NETHERLANDS	84,503.0	95.4	77,774.7	51	55,949.7	310.4
61	WESTPAC BANKING	AUSTRALIA	84,157.6	27.1	41,575.5	83	47,546.6	638.6
62	SECURITY PACIFIC CORP.	U.S.	83,943.0	7.8	52,630.0	70	60,566.0	740.6
63	BANCO DO BRASIL	BRAZIL	82,694.4	3.1	28,706.1	96	56,560.3	390.7
64	CASSA DI RISPARMIO DELLE PROVINCIE LOMBARDE	ITALY	82,329.3	25.9	60,819.1	64	38,088.2	480.4
65	HOKKAIDO TAKUSHOKU BANK	JAPAN	79,685.3	3.9	58,979.1	65	46,597.2	145.8
66	BANK MELLI IRAN	IRAN	78,253.4	7.5	54,311.6	69	25,996.2	15.9
67	MONTE DEI PASCHI DI SIENA	ITALY	76,193.9	23.2	58,588.6	66	39,471.7	167.4
68	CREDITO ITALIANO	ITALY	75,441.3	32.7	65,762.7	60	54,417.3	216.3
69	CHUO TRUST & BANKING	JAPAN	74,990.5	(2.4)	66,352.2	59	44,146.8	108.5
70	CRÉDIT INDUSTRIEL ET COMMERCIAL	FRANCE	74,906.3	18.9	31,664.7	94	34,394.9	161.0
71	CHEMICAL BANKING CORP.	U.S	71,513.0	6.2	50,151.0	72	41,876.0	(482.2)
72	BANCO BILBAO VIZCAYA	SPAIN	70,158.9	12.2	45,634.0	78	32,466.6	815.4
73	NORDDEUTSCHE LANDESBANK	W. GERMANY	69,016.5	11.4	63,861.3	61	60,260.7	44.8
74	BANK OF NOVA SCOTIA	CANADA	68,989.9	12.7	51,890.3	71	45,984.3	186.1
75	GÉNÉRALE DE BANQUE	BELGIUM	68,405.8	9.2	63,072.3	63	48,809.0	65.2
76	BANK OF MONTREAL	CANADA	67,218.1	3.9	56,147.9	67	46,250.5	42.9
77	BANCO DI NAPOLI	ITALY	67,189.0	17.3	54,315.8	68	43,301.3	75.9
78	NCNB CORP.	U.S.	66,190.8	121.8	48,576.3	73	33,943.7	447.1
79	AUSTRALIA & NEW ZEALAND BANKING	AUSTRALIA	65,638.4	13.6	38,399.3	86	35,534.4	283.1
80	GROUPE DES BANQUES POPULAIRES	FRANCE	64,858.3	16.0	41,941.6	81	39,034.1	200.0
81	BANCO DI ROMA	ITALY	64,650.0	18.3	48,500.3	74	41,848.4	117.5
82	MANUFAC[illegible]ERS HANOVER CORP.	U.S.	60,479.0	(9.3)	41,994.0	80	39,145.0	(518.0)
83	CHIBA B[illegible]	JAPAN	59,429.9	15.3	47,416.6	75	39,174.7	122.8
84	FIRST INTERSTATE BANCORP	U.S.	59,051.4	1.5	46,467.7	76	36,767.9	(124.5)
85	NATIONAL AUSTRALIA BANK	AUSTRALIA	58,995.6	18.3	32,030.3	93	44,125.3	639.0
86	SKANDINAVISKA ENSKILDA BANKEN	SWEDEN	58,912.4	24.9	34,250.1	91	38,578.9	162.3
87	CRÉDIT MUTUEL	FRANCE	56,633.2	22.1	38,243.9	87	27,447.4	156.1
88	HOKURIKU BANK	JAPAN	55,953.1	15.6	46,033.6	77	36,515.6	126.3
89	BANKERS TRUST NEW YORK CORP.	U.S.	55,658.4	(3.9)	26,220.1	97	18,421.4	(979.9)
90	BANQUE INDOSUEZ	FRANCE	55,449.8	15.2	18,363.9	99	23,214.0	162.2
91	STATE BANK OF INDIA	INDIA	55,054.9	11.1	30,900.7	95	22,019.1	66.8
92	TORONTO-DOMINION BANK	CANADA	53,716.7	10.5	41,889.8	82	41,266.9	582.9
93	JOYO BANK	JAPAN	51,457.1	13.5	43,927.5	79	34,061.2	133.9
94	BANK OF SEOUL	SOUTH KOREA	51,088.2	23.3	13,169.2	100	10,466.4	89.3
95	BANQUE BRUXELLES LAMBERT	BELGIUM	50,492.7	10.3	24,893.9	98	21,764.4	125.1
96	PKBANKEN	SWEDEN	50,282.6	26.5	35,920.6	89	33,861.6	109.3
97	BANK OF NEW YORK CO.	U.S.	48,856.5	3.1	34,927.1	90	34,629.4	50.7
98	WELLS FARGO & CO.	U.S.	46,736.6	4.5	36,430.3	88	40,988.3	601.1
99	FIRST CHICAGO CORP.	U.S.	47,907.0	7.8	32,935.0	92	28,447.0	358.7
100	SHIZUOKA BANK	JAPAN	47,479.2	10.8	40,252.7	84	29,364.6	157.7
	TOTALS		12,497,344.8		9,409,426.0		7,793,308.8	32,472.3

STOCKHOLDERS' EQUITY[5] $ Millions	EMPLOYEES Number	
3,398.0	31,994	51
2,750.6	13,662	52
5,356.0	34,399	53
4,915.0	17,539	54
4,495.0	14,207	55
3,420.6	20,918	56
1,656.5	972	57
2,569.8	6,596	58
4,126.1	36,466	59
2,590.5	22,697	60
4,923.6	47,525	61
4,637.0	41,099	62
5,502.7	134,301	63
4,325.0	15,338	64
1,771.5	6,469	65
553.4	22,840	66
3,411.5	19,315	67
2,497.4	16,960	68
823.6	4,154	69
1,902.3	26,000	70
3,705.0	29,139	71
4,702.9	32,470	72
1,448.7	6,050	73
2,932.1	29,618	74
3,010.2	16,396	75
3,191.4	33,666	76
975.7	12,930	77
2,961.5	27,002	78
3,101.0	47,009	79
2,568.8	27,435	80
2,081.1	14,435	81
3,381.0	20,034	82
1,872.3	4,724	83
2,339.3	36,000	84
4,398.0	38,000	85
922.1	9,620	86
3,463.8	22,000	87
1,594.4	5,056	88
2,385.7	13,230	89
1,842.9	16,347	90
762.2	288,824	91
3,745.2	23,881	92
1,616.8	4,957	93
1,553.8	9,838	94
1,151.9	12,116	95
862.2	5,127	96
2,764.3	14,883	97
2,860.9	19,500	98
2,692.0	18,158	99
2,008.1	5,299	100
419,939.6	2,866,490	

ASSETS PER EMPLOYEE

THE TEN HIGHEST

	RANK	
ZENSHINREN BANK	57	**$88,808,282**
NORINCHUKIN BANK	7	**78,243,690**
LONG-TERM CREDIT BANK	19	**56,372,744**
NIPPON CREDIT BANK	32	**55,746,556**
INDUSTRIAL BANK OF JAPAN	6	**55,616,780**
MITSUBISHI TRUST & BANK	13	**35,262,012**
MITSUI TRUST & BANKING	20	**31,034,084**
SUMITOMO TRUST & BANKING	16	**30,712,026**
YASUDA TRUST & BANKING	26	**28,464,774**
SANWA BANK	5	**26,775,024**

THE FIVE LOWEST

NATIONAL AUSTRALIA BANK	85	**1,552,517**
ANZ BANKING	79	**1,396,295**
LLOYDS BANK	48	**1,097,103**
BANCO DO BRASIL	63	**615,739**
STATE BANK OF INDIA	91	**190,617**
THE MEDIAN		**4,347,602**

CHANGE IN NET INCOME

THE TEN BIGGEST INCREASES*

	RANK	
BANCO DI ROMA	81	**162.3%**
BANK OF SEOUL	94	**106.2**
NMB POSTBANK GROUP	60	**103.8**
WESTDEUTSCHE LANDESBANK	40	**99.7**
NCNB CORP.	78	**77.1**
SHOKO CHUKIN BANK	49	**63.7**
SUMITOMO BANK	2	**58.2**
FUJI BANK	3	**57.0**
MITSUBISHI BANK	4	**54.5**
BANKAMERICA CORP.	45	**51.9**

THE FIVE BIGGEST DECREASES*

BANKERS TRUST N.Y. CORP.	89	**251.3%**
BANCA NAZIONALE DEL LAVORO	41	**246.0**
J.P. MORGAN & CO.	55	**227.3**
FIRST INTERSTATE BANCORP	84	**196.2**
LLOYDS BANK	48	**187.7**

*Percent increase or decrease of net income. Listings exclude companies that lost money in 1988.

FOOTNOTES TO THE BANKS

[1] All companies on the list must have more than 80% of their assets in chartered commercial banking institutions. Asset figures for non-U.S. banks have been converted into U.S. dollars using the market rate at each bank's fiscal year-end, which is December 31, 1989 unless otherwise noted. Chuo Trust, Daiwa, Mitsubishi Trust, Mitsui Trust, Sumitomo Trust, Toyo Trust, and Yasuda Trust include holdings of major trusts in their assets.

[2] Deposit figures for non-U.S. banks have been converted into U.S. dollars using the market rate at each bank's fiscal year-end. Figures for West German banks include their own bonds; so do figures for Bank of Tokyo, Industrial Bank of Japan, Long-Term Credit Bank of Japan, Norinchukin Bank, and Shoko Chukin Bank.

[3] Loan figures for non-U.S. banks have been converted into U.S. dollars using the market rate at each bank's fiscal year-end. Figures include lease financing and money at call or available on short notice and are net of loan-loss reserves.

[4] Net income figures for non-U.S. banks have been converted into U.S. dollars using the average rate in the official exchange market during each bank's fiscal year.

[5] Stockholders' equity figures for non-U.S. banks have been converted into U.S. dollars using the market rate at each bank's fiscal year-end. Equity is the sum of capital stock, surplus and retained earnings.

[6] Figures are for fiscal year ended March 31, 1989.

[7] Figures are unconsolidated.

[8] Government owned.

[9] Excludes some some subsidiaries more than 50% owned.

[10] Figures are for fiscal year ended October 31, 1989.

[11] Name changed from NMB Bank (Nederlandsche Middenstandsbank) upon merger with Postbank, October 4, 1989.

[12] Figures are for fiscal year ended September 30, 1989.

[13] Figures for fiscal year ended March 20, 1989.

[14] Figures reflect acquisition of NCNB Texas National Bank (No. 26 on last year's U.S. list), August 9, 1989.

[15] Figure is a FORTUNE estimate.

THE BANKS BY COUNTRY

	1-50	51-100	TOTAL	LARGEST COMPANY	ASSETS $ millions	RANK
AUSTRALIA	0	3	3	WESTPAC BANKING	84,157.6	61
BELGIUM	0	2	2	GÉNÉRALE DE BANQUE	68,405.8	75
BRAZIL	0	1	1	BANCO DO BRASIL	82,694.4	63
BRITAIN	4	0	4	BARCLAYS BANK	206,036.0	17
CANADA	1	4	5	ROYAL BANK OF CANADA	97,657.4	46
CHINA	1	0	1	BANK OF CHINA	181,543.0	23
FRANCE	6	4	10	CRÉDIT AGRICOLE	242,578.3	8
HONG KONG	1	0	1	HONGKONG & SHANGHAI BANKING	132,928.7	30
INDIA	0	1	1	STATE BANK OF INDIA	55,054.9	91
IRAN	0	1	1	BANK MELLI IRAN	78,253.4	66
ITALY	2	6	8	ISTITUTO BANCARIO S. PAOLO TORINO	107,700.0	37
JAPAN	22	8	30	DAI-ICHI KANGYO BANK	413,214.4	1
NETHERLANDS	1	3	4	AMSTERDAM-ROTTERDAM BANK	94,168.2	47
SOUTH KOREA	0	1	1	BANK OF SEOUL	51,088.2	94
SPAIN	0	1	1	BANCO BILBAO VIZCAYA	70,158.9	72
SWEDEN	0	2	2	SKANDINAVISKA ENSKILDA BANKEN	58,912.4	86
SWITZERLAND	2	1	3	UNION BANK OF SWITZERLAND	114,260.0	33
U.S.	3	10	13	CITICORP	230,643.0	11
W. GERMANY	7	2	9	DEUTSCHE BANK	203,601.1	18

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COMPANY	RANK
ALGEMENE BANK NEDERLAND	51
AMSTERDAM-ROTTERDAM BANK	47
AUSTRALIA & NEW ZEALAND BANKING	79
BANCA COMMERCIALE ITALIANA	56
BANCA NAZIONALE DEL LAVORO	41
BANCO BILBAO VIZCAYA	72
BANCO DI NAPOLI	77
BANCO DI ROMA	81
BANCO DO BRASIL	63
BANKAMERICA CORP.	45
BANKERS TRUST N.Y. CORP.	89
BANK MELLI IRAN	66
BANK OF CHINA	23
BANK OF MONTREAL	76
BANK OF NEW YORK CO.	97
BANK OF NOVA SCOTIA	74
BANK OF SEOUL	94
BANK OF TOKYO	12
BANK OF YOKOHAMA	58
BANQUE BRUXELLES LAMBERT	95
BANQUE INDOSUEZ	90
BANQUE NATIONALE DE PARIS	10
BARCLAYS BANK	17
BAYERISCHE HYPOTHEKEN & WECHSEL	52
BAYERISCHE LANDESBANK	50
BAYERISCHE VEREINSBANK	42
CANADIAN IMPERIAL BANK OF COMMERCE	59
CARIPLO	64
CHASE MANHATTAN CORP.	38
CHEMICAL BANKING CORP.	71
CHIBA BANK	83
CHUO TRUST & BANKING	69
CITICORP	11
COMMERZBANK	34
CRÉDIT AGRICOLE	8
CRÉDIT INDUSTRIEL ET COMMERCIAL	70
CRÉDIT LYONNAIS	15
CRÉDIT MUTUEL	87
CREDITO ITALIANO	68
CRÉDIT SUISSE	54
DAI-ICHI KANGYO BANK	1
DAIWA BANK	25
DEUTSCHE BANK	18
DEUTSCHE GENOSSENSCHAFTSBANK	35
DRESDNER BANK	28
FIRST CHICAGO CORP.	99
FIRST INTERSTATE BANCORP	84
FUJI BANK	3
GÉNÉRALE DE BANQUE	75
GROUPE DES BANQUES POPULAIRES	80
GROUPE DES CAISSES D'ÉPARGNE	27
HOKKAIDO TAKUSHOKU BANK	65
HOKURIKU BANK	88
HONGKONG & SHANGHAI BANKING	30
INDUSTRIAL BANK OF JAPAN	6
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JOYO BANK	93
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NIPPON CREDIT BANK	32
NMB POSTBANK GROUP	60
NORDDEUTSCHE LANDESBANK	73
NORINCHUKIN BANK	7
PARIBAS	29
PKBANKEN	96
RABOBANK	53
ROYAL BANK OF CANADA	46
SAITAMA BANK	43
SANWA BANK	5
SECURITY PACIFIC CORP.	62
SHIZUOKA BANK	100
SHOKO CHUKIN BANK	49
SKANDINAVISKA ENSKILDA BANKEN	86
SOCIÉTÉ GÉNÉRALE	24
STATE BANK OF INDIA	91
SUMITOMO BANK	2
SUMITOMO TRUST & BANKING	16
SWISS BANK CORP.	39
TAIYO KOBE BANK	22
TOKAI BANK	9
TORONTO-DOMINION BANK	92
TOYO TRUST & BANKING	31
UNION BANK OF SWITZERLAND	33
WELLS FARGO & CO.	98
WESTDEUTSCHE LANDESBANK	40
WESTPAC BANKING	61
YASUDA TRUST & BANKING	26
ZENSHINREN BANK	57